THE CAROLINA JOURNAL of PHARMACY

JANUARY 1985 VOLUME 63 NUMBER 1

Honored for outstanding service to the North Carolina Pharmaceutical Association at the 1984 Annual Convention were John Black, Raymond Jones and Horace Lewis, Colorcraft representatives. Not present was Ray Black, who also received a certificate of appreciation. Photo by Colorcraft, of course

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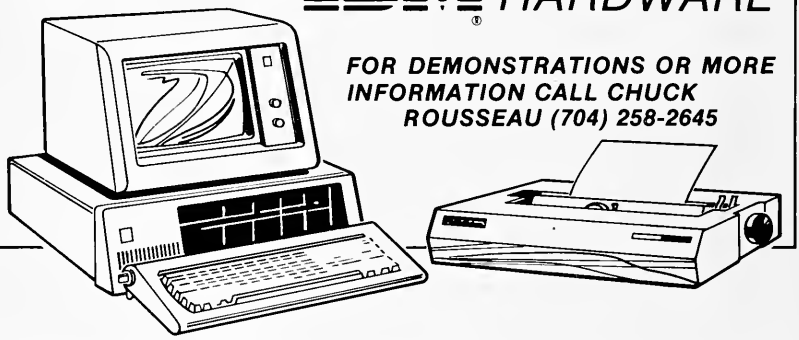

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REMARKS TO THE CONVENTION OF THE NORTH CAROLINA PHARMACEUTICAL ASSOCIATION, CHAPEL HILL, NORTH CAROLINA, APRIL 9, 1984
Washington and Pharmacy: a Perspective*

Kenneth G. Starling
Assistant Director for General Litigation
Bureau of Competition
Federal Trade Commission

*The views expressed here are only those of a member of the staff of the Federal Trade Commission. They do not necessarily reflect or represent the views of the Federal Trade Commission or any commissioner.

What is the FTC? The Federal Trade Commission is an independent regulatory agency. It is an elaborate institution of lawyers, economists and other professionals, including a pharmacist on my staff. The FTC's mission includes the enforcement of antitrust law, a responsibility which it shares with the Department of Justice.

What is antitrust law? Antitrust law is that body of laws concerned with monopoly and restraints on competition. It is concerned with arrangements that interfere with the free operation of the marketplace. There are many different kinds of restraints of trade, but the kinds of things I will be talking about today are called horizontal restraints. These are generally agreements among direct competitors (i.e., persons on the same level) to accomplish something that they could not do independently, ultimately aimed at restricting output and raising prices. Examples of such agreements are price-fixing agreements, divisions of territories and boycotts. These arrangements all eliminate or reduce competition.

What has antitrust law got to do with pharmacy? We are all familiar with the application of these antitrust laws to producers of goods. It would not be surprising to anyone here if two or more pharmaceutical producers were sued or convicted for fixing their wholesale prices. But what about all of the lawyers in a county bar association agreeing on a minimum fee schedule covering wills and real estate closings? Or a large percentage of the physicians in a county medical society agreeing among themselves on the fees at which they will provide services to a health insurance plan? The application of the antitrust laws to the commercial practices of professionals is not really new but is an increasingly important development in antitrust law. My description of this development is the "Washington perspective" that I would like to share with you. I obviously can't cover much ground in 15 minutes, but I hope to give you some impressions of the trends in this area as I see them.

Because this is a short time to cover such a complex area, let me interrupt my story here to make a point very clearly, so that you are not left with the wrong impression. When I speak of applying the antitrust laws to professionals, their associations or even the state boards that regulate them, I am only talking about the commercial or business practices of professionals. In hearings and developments in the Congress last year, it was made clear that the FTC is interested only in the business or commercial acts or practices of professionals, and not in the "training, education or experience requirements for the licensure of professionals or the establishment of the permissible tasks or duties which may be performed by professionals based on specialized training or education." The pending legislation that will authorize the FTC to operate reflects this understanding.

It is not at all surprising that the antitrust law enforcement agencies and the courts are paying increasing attention to conduct in the markets for services. The Economic Report of the President shows that in 1981, 1982 and 1983, the value of services sold in the United States was about 50% of the Gross National Product. In this sense, the focus of

the antitrust enforcers is following the trends in the economy.

A good starting point for any description of what is happening in this area is the Supreme Court's recent decision in a case brought by the Justice Department against the National Society of Professional Engineers in 1972. This decision illustrates several important points.

In the *NSPE* case, the Society had adopted ethical rules against competitive bidding. These rules were interpreted to prohibit the submission of any form of price information to a prospective customer so that the customer could make a price comparison on engineering services. In antitrust terms, the charge against the Society was that its members had *agreed* to abide by the ban; as a consequence, price competition among members had been suppressed and customers had been deprived of the benefits of free and open competition.

In analyzing this restriction, the Court began by establishing that

> Price is the central nervous system of the economy, and an agreement that interferes with the setting of price by free market forces is illegal on its face.

The test for whether this agreement is illegal, under relevant antitrust laws, said the Court, is whether the restraint is *unreasonably* restrictive of competitive conditions.

The Society argued that competition wasn't the most important factor in providing good engineering services—that competition was actually harmful. The Society argued that the restraint on price competition was justified because bidding on engineering services would probably tempt engineers to do inferior work which would result in risk to public safety and health. The Court rejected "harm *from* competition" as a *relevant* justification under antitrust analysis.

> The Sherman Act reflects a legislative judgment that ultimately competition will not only produce lower prices but also better goods *and services*. The assumption that competition is the best method of allocating resources in a free market recognizes that all elements of a bargain—quality, services, safety and durability—and not just the immediate cost are favorably affected by the free opportunity to select among alternative offers. The statutory policy precludes inquiry into the question whether competition is good or bad. The fact that engineers are often involved in large-scale projects significantly affecting the public safety does not alter our analysis.

The Court did acknowledge that some ethical codes of some learned professions may serve to regulate and promote competition as opposed to some other policy goal, and thus were *reasonable* restrictions, but the NSPE's ban was not such a provision. This does not mean that quality is irrelevant, since quality is a form of competition just like price. But to be justified, the restraint has got to promote *competition* through quality, not eliminate competition entirely.

The *NSPE* decision is a critically important development in this area, for it is generally read to say that the courts cannot trade off competition in favor of some non-economic justifications (such as social or political values, that is, justifications that do not enhance competition). *Legislatures* can take these other policy considerations into account, but the courts are not legislatures.

The *NSPE* decision indicates *how* antitrust laws are to be applied to professional services. Now I would like to turn to the question *why* restraints among professionals are thought to be an antitrust problem. Again, I think the best and fastest way to do this is with a recent example.

In its case against the AMA, the FTC ruled that the AMA's broad prohibition on advertising and solicitation by physicians had significant adverse effects on competition among the members. The Commission described its concerns in the following way:

> The ethical principles had prevented doctors and medical organizations from disseminating information on the prices and services they offered, inhibiting competition among health care service providers, including prepaid plans or other providers that would advertise low cost services.
>
> The evidence indicates that the specific fee information is important to con-

(Continued on Page 6)

sumers, that consumers lack access to fee and other important information necessary to make an informed choice of physician and that information obtained by word of mouth does not fill this need.

Economic theory suggests that price differences (not accounted for by differences in quality) would diminish with price advertising and [with] the reduction in consumers' search costs.

Many state-board regulations and professional association codes of ethics restrict advertising and solicitation, as well as other forms of commercial activity. While some of these restrictions are generally intended to prevent fraud and deception, others are explicitly intended to eliminate competition. Even well-intended regulations that go beyond preventing fraud and deception may go too far, in terms of modern-day antitrust. Such restrictions may be overly broad either in their language or in their enforcement.

To take an example: Truthful advertising that is self-laudatory or comparative, while not false or misleading, is sometimes prohibited by board regulations or codes of ethics. Such advertising may contribute useful information to consumers' choices and most certainly may offer valuable means for consumers and professionals to learn about each other. Bans on advertising increase the difficulty of finding the lowest cost seller of acceptable ability or quality, isolating sellers from competition and reducing the incentive to price competitively.

Separate from restrictions on advertising are restrictions on "solicitation," which are quite common. These could potentially be enforced by a board or association to eliminate many forms of competitive activity, including even truthful advertisement. Self-regulatory language that is intended to reach and curb outrageous conduct among professionals may, at times, be invoked in arbitrary ways, to inflict injury on desirable forms of competition.

Again, why are these commercial restrictions the subject of antitrust? Because the restrictions may amount to unreasonable agreements among competitors to eliminate

competition in some form either among themselves or by some outsiders. Enforcement of some of these restrictions can affect or exclude innovators—for example, professionals who offer discounts or branch offices or cremations or legal clinics. I am not saying that all of these innovations are preferred to traditional professional services, but the principle here is that, unless clearly harmful, these innovations deserve to be tested in the marketplace.

Let me give you some examples of application of these principles.

A. Competitive Bidding Bans

1. Accounting:

United State v. Texas State Board of Public Accountancy, 464 F. Supp. 400 (W.D. Tex. 1978), *aff'd and modified per curiam*, 592 F.2d 919 (5th Cir.), *cert. denied*, 444 U.S. 925 (1979).

2. Engineers and Surveyors

National Society of Professional Engineers v. United States, 435 U.S. 679 (1978).

United States v. American Society of Civil Engineers, 446 F.Supp. 803 (S.D. N.Y. 1977) (civil contempt judgment against professional association for violation of 1972 consent decree striking a ban on competitive bidding)

United States v. Mississippi State Board of Registration for Professional Engineers and Land Surveyors, Civil No. J-80-0235 (S.D. Miss., filed May 22, 1980) (competitive bidding ban) In 1983, the Mississippi legislature enacted the ban on competitive bidding.

United States v. Alaska Board of Registration For Architects, Engineers and Land Surveyors, No. A 82-423 CIV (D. Alaska, filed October 12, 1982) (competitive bidding ban) Very recently settled, eliminating the ban.

B. Price-fixing and Price-related Violations

Superior Court Trial Lawyers Ass'n, Dkt. 9171, filed Dec. 20, 1983. Concerted refusal to deal by attorneys in order to coerce a governmental purchaser of their services into raising their fees; agreement among competing professionals as to the terms (price) on which they would or would not provide their services.

United States v. Oregon State Bar, 385 F.Supp. 507 (D. Ore. 1974) Minimum fee schedule; complaint dismissed as moot.

United States v. Geneva County Bar Ass'n., 1982–1 Trade Cases ¶64,699 (M.D. Ala. 1982) (consent decree prohibiting fee schedules)

United States v. Gary D. McAliley et al., 1982–2 Trade Cases, ¶64,938 (M.D. Ala. 1982) (consent decree prohibiting use of fee schedules)

United States v. Cassady, Fuller & Marsh, et al., 1982–83 Trade Cases ¶65,122 (M.D. Ala. 1982) (consent decree prohibiting price fixing conspiracy)

United States v. American Consulting Engineers Council, 1982–2 Trade Cases ¶64,787 (D.D.C. 1982) (consent decree prohibiting ethical restraints on entering design competition, providing free services or providing services on a contingent fee basis)

C. Other Restraints

1. Advertising and solicitation restrictions

a. Justice has challenged state-board prohibitions on direct and uninvited solicitation, prohibitions on advertisements that reflect a firm's past performance and areas of specialization, comparisons to other CPA's, testimonials and laudatory statements. *United States v. Louisiana State Board of Certified Public Accountants*, Civ. No. 1947 (E.D. LA.), filed 1983.

b. *United States v. American Bar Ass'n.*, Civil No. 76–1182 (D.D.C., filed June 26, 2976) complaint against advertising ban in ethical code, dismissed after association eliminated the restriction.

2. Encroachment

Restrictions on encroachment prohibit professionals from endeavoring to provide services to the clients of other professionals. In *Mardirosian v. The American Institute of Architects*, 474 F.Supp. 628 (D.D.C. 1979),

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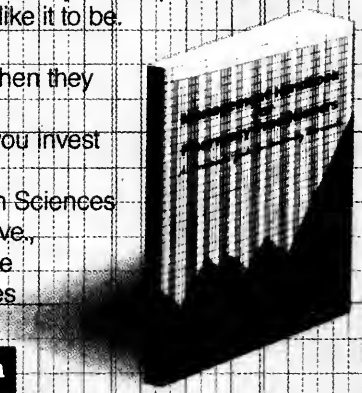

Washington and Pharmacy: a Perspective

a private suit, a prohibition against encroachment upon another architect's clients was held to be in violation of Section 1 of the Sherman Act.

Now, in the time remaining, let me make some comments about the pharmacy profession in particular. There are no cases in this area, apart from the First Amendment decisions regarding commercial speech, but there may be some potential problems.

A. Price-related restrictions

There are restrictions on advertising by pharmacists, include prohibitions on descriptions of pricing policies (such as "discount" or "cut-rate") even where advertisement of actual prices is permitted. Use of phrases such as "lowest prices," "discount," "cut-rate," or other terms that may be regarded as "promotional" are deemed to be unprofessional under numerous state regulatory plans. There seem to be two reasons for these prohibitions: first is a purpose to prevent bait-and-switch advertisement; second is an apparent feeling that drug consumers will be encouraged by promotional advertising to pressure physicians to write them prescriptions for undesirably large quantities of drugs (such as Valium). Such restrictions may, however, unreasonably restrict the communication of nondeceptive information to consumers; such descriptive information may be not only truthful but more direct and easily understandable information than mere price lists. Effective communication of price information is crucial to the functioning of competitive markets and restraints upon dissemination of such information can seriously impede competition and result in higher prices to consumers.

2. Self-laudatory advertisement

Some regulations prohibit advertisements by pharmacists that "assert professional superiority." These restrictions are similar to restraints on self-laudatory advertisement, which were found unreasonable in the FTC's *AMA* decision. Prohibiting self-laudatory advertisement—and permitting competing professionals to determine what is self-laudatory—may stifle competition by prohibiting truthful communications that point out superior aspects of the quality of the advertiser's services in direct ways. Professionals might refrain from making truthful statements regarding their qualifications, experience, and performance because of concern that such statements might be construed as implications of superiority.

3. Solicitation

Some regulations prohibit advertising urging customers to bring their prescription refill requests to the advertiser where the prescription was originally filled by another pharmacist. Such rules appear to limit the ability of one pharmacy to solicit directly the prescription refill business of another pharmacy, even by offering competitively favorable prices. A ban on such advertising

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may be harmful to consumers who are often in a better position to compare prices and services among pharmacies when shopping for refills rather than original prescriptions. Limitations on this type of promotional activity may have effects similar to the encroachment and solicitation bans occurring in the accounting and architecture professions. If the purpose of such restrictions in the pharmacy profession is to prevent deceptive advertisement, to preserve the pharmacist's continuity of contact with the patient or even to prevent customers from improperly obtaining excessive numbers of refills, the restriction, and its competitive effect, may be overly broad.

Conclusion

Certainly not all the professional association ethical rules and all the board regulations I have described have anticompetitive effects, but many such restrictions are potentially overly broad, anticompetitive and protectionist. As you can see from this brief review, where the antitrust authorities have found codes, regulations and restrictions with such characteristics, they have filed complaints against some associations and boards, and have worked out consent agreements with others. It is expected that this use of antitrust law—to reduce anticompetitive regulation in professional services—will remain important and will increase in the future.

THE AGING OFTEN NEED HELP IN CHOOSING LAXATIVES AND ANTACIDS

by John A. Gans, Pharm.D.*

Inadequate information about the appropriate selection and use of antacids and laxatives and a tendency to self-prescribe those drugs, are among the medication problems faced by older patients. Since the aging purchase a large portion of over-the-counter (OTC) laxative and antacid products, the pharmacist's continued challenge is to alert older patients that as with any class of drugs, indiscriminate, inappropriate, or excessive use can be hazardous.

PRODUCT SELECTION

The pharmacist can alleviate confusion and recommend effective products. Antacid potency varies widely, and product labeling is often not helpful in distinguishing high-potency agents from those with low buffering capacity. To assure optimal benefit, pharmacists should consider other issues, such as efficacy, compliance factors (palatability and convenience), complications and drug interactions before suggesting antacid types.

Older patients with altered bowel functions, renal disorders or severe organ-system disease are particularly vulnerable to complications of antacid therapy. As an example, large volume antacids may aggravate intestinal obstruction in those patients prone to constipation and dehydration. In addition, antacid formulations should be taken into account because of possible adverse reactions to the mineral salts:

- Aluminum salts, especially aluminum hydroxide, can cause constipation. In uremic patients, dementia and other neurological abnormalities have been associated with aluminum.
- Magnesium salts may produce diarrhea, with subsequent dehydration and vitamin and electrolyte depletion.
- Short-term use of calcium salts is associated with constipation or diarrhea and acid rebound, which can stimulate the patient to use more antacid. Chronic use can lead to more severe complications, such as the development of renal calculi, hypercalcemia and milk-alkali syndrome.
- Sodium content of antacids should always be considered in the aging, especially if the patient is being medicated for congestive heart failure, hypertension or other conditions where sodium restriction is essential.

In addition to the above complications, the pharmacist should caution older patients that taking antacids with other drugs may prevent one or the other drug from achieving the full therapeutic effect. For example, the patient undergoing urinary tract antibiotic therapy, requires urinary acidity. Concomitant antacid therapy will produce urinary alkalinity and decrease the effectiveness of the antibiotic treatment. Overall, antacids may disrupt the absorption and elimination of other drugs, but such interactions vary in intensity and clinical significance. Each patient must be individually counseled.

CHRONIC CONSTIPATION

One of the most frustrating problems in geriatric medicine is dealing with patients with chronic constipation, especially those who are laxative dependent or abuse laxative products. There is little appreciation of the differences in the mechanism or intensity of laxative actions, or of the complications from inappropriate laxative selection in aging individuals. Again, the pharmacist is the most convenient and constant source of drug use information.

When a pharmacist is asked to recommend a laxative for an older patient, he or she should keep in mind the three classifications of constipation: imagined, rectal and colonic.

- The imagined variety is attributable to the belief that good health depends on the daily production of stool; it has organic significance and does not merit laxative therapy.
- Rectal insensitivity or negative conditioning may result from the denial of the need to defecate.
- Colonic constipation can be caused by: insufficient water intake, metabolic disorders, mechanical obstruction, medications, depression, etc.

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Laxatives and Antacids

The pharmacist should advise the patient on the use of laxatives and to consult a physician if the condition does not improve.

Psychological and organic disease histories are important factors when suggesting laxative therapy. The ideal laxative should be both nonirritating and nontoxic. All laxative therapy should cease after an appropriate period of time, allowing resumption of normal bowel activity. Recommended laxatives should be convenient to use to maximize patient compliance, and pharmacists must encourage patients to ask questions regarding medication use and any untoward effects.

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*John A. Gans, Pharm.D. is Director of the Department of Pharmacy Practice and Professor of Clinical Pharmacy at the Philadelphia College of Pharmacy and Science.

RITE OF THE ROSES

The Rite of the Roses was conducted by Third Vice President A. Rowland Strickland, Jr., and his wife Jane, at the Tuesday morning business session of the 1984 Annual Convention of the North Carolina Pharmaceutical Association, April 10, at the Hotel Europa, Chapel Hill.

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The book, *Management Handbook for Pharmacy Practitioners: A Practical Guide for Community Pharmacists*, was funded by a grant-in-aid from The Upjohn Company to the Health Sciences Consortium which developed the content.

More than a dozen leading pharmacy administration faculty members contributed to the book, which discusses the following: cash flow; business records; advertising; tax considerations; accounts receivable management; inventory; break-even analysis; and nonprescription merchandising and planograms.

To order the book, contact Health Sciences Consortium, Pharmacy Continuing Education, 103 Laurel Avenue, Carrboro, NC 27510. Or, an order form for the book is available through Upjohn sales representatives and distribution centers.

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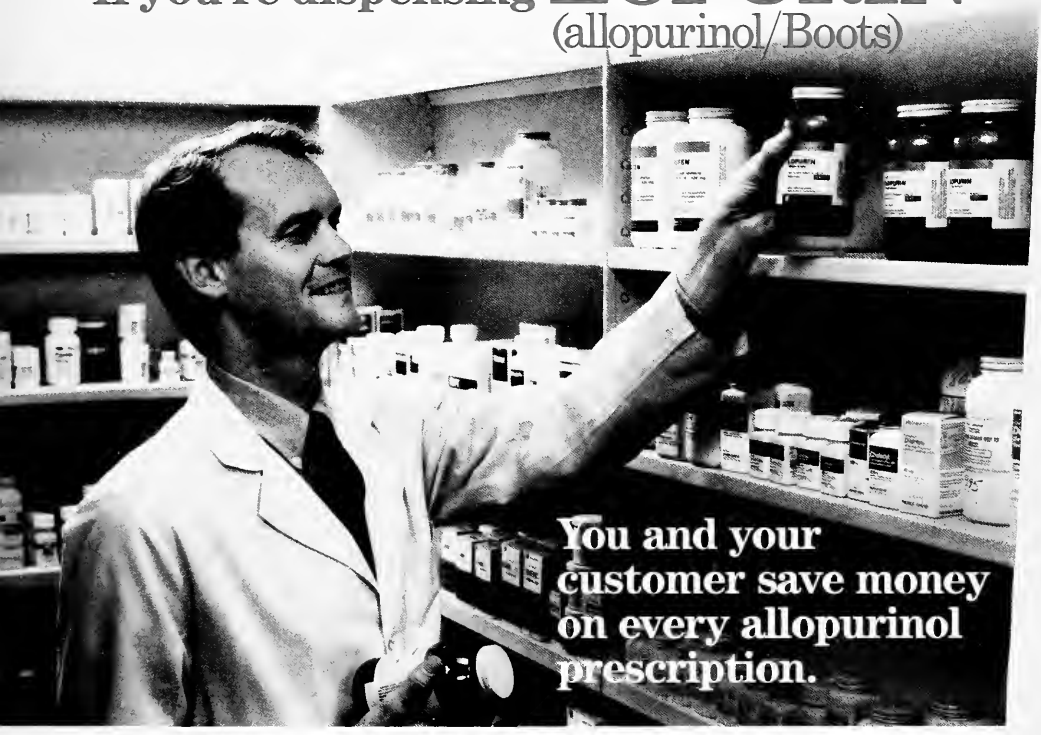

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LOCAL NEWS

WAKE COUNTY PHARMACEUTICAL ASSOCIATION

The January meeting of the Wake County Pharmaceutical Association was held at Balentine's Restaurant in Raleigh on January 16, 1985. Forty members of the association heard Dean Tom Miya discuss a variety of topics including the Hollingsworth Scholarship program, mandatory continuing education and curriculum revisions at the School of Pharmacy.

Bob Allen provided the group with information about the upcoming continuing education program "The Role of the Health Professional in Drug Abuse Treatment/Prevention" scheduled for February 21, 1985 at the Wake AHEC.

WILLIAMSTON

The Northeastern Carolina Pharmaceutical Society held its annual Christmas party Sunday, December 2, 1984, at the Williamston Country Club. Approximately eighty members and their spouses attended. An excellent Christmas music program was provided by Don and Cathy Green of Bethel. Door prizes were provided by NC Mutual Wholesale Drug Company and W. H. King Drug Company.

Al Mebane, Executive Director of the NC Pharmaceutical Association, installed the officers for 1985: President—Bob Bowers, Bethel; Vice President—Bill Brown, Greenville; Secretary Treasurer—Dean Bryan, Tarboro.

WAYNE COUNTY PHARMACEUTICAL SOCIETY OFFICERS

1985 Officers for the Wayne County Pharmaceutical Society were installed at the Annual Meeting of the Society held at the Goldsboro Country Club, Sunday night, January 14. The officers were installed by NCPhA Executive Director Al Mebane and are:

President—Johnnie H. Casey
Vice President—William T. Kesler
Secretary—R. Vance Wood
Treasurer—Louise G. Kesler

Mecklenburg County 1985 Officers of the Mecklenburg Pharmaceutical Society are:
President—**TOMMY DAGENHART**
First Vice President—**ART MINTON**
Second Vice President—**DALE JONES**
Secretary—**SUSAN LEONARD**
Treasurer—**WAYNE FARRIS**

Catawba County Society of Pharmacists Revitalized

The Catawba County Society of Pharmacists was reorganized and held its first meeting on Sunday, January 27, in Hickory. Officers for 1985 are:

BILLY L. PRICE, Conover, President
PAUL WALKER, Newton
First Vice President
CHARLES CARPENTER, Maiden, Second Vice President
SARA ISENHOUR, Newton, Secretary
JOHN ROBERT BUSBEE, Clarement, Treasurer

Ninety-one pharmacists attended the organizational meeting for the election and installation of officers, and to hear a presentation by William Pitts, Eli Lilly Representative, on insulin and the care of diabetics. The Society will meet quarterly.

CHARLOTTE WOMAN'S PHARMACEUTICAL AUXILIARY

The Charlotte Woman's Pharmaceutical Auxiliary had a luncheon meeting January 8, 1985 at the Park Road YWCA.

The speaker was Brigit O'Conner, Executive Director of the Shepherd Center. She spoke about the Center and how as citizens we can be volunteers. The Shepherd Center is an educational and service agency sponsored by the elderly for the elderly.

A short business meeting was held after the program.

Billie Dagenhart
Corresponding Secretary

ANNUAL REPORT
Public Health Committee
North Carolina Pharmaceutical Association
1983-84

The Public Health Committee of the North Carolina Pharmaceutical Association held two meetings. At the November 20th, 1983, meeting the Committee reviewed the opportunity for pharmacists to contribute to public health. It was recognized that many pharmacy practitioners are not aware of many public health issues. Pharmacists are not sure how to participate effectively in this arena. The current role of the health departments was discussed and the opportunities for pharmacists to become involved was also identified. The Committee recognized that there was not much information about North Carolina pharmacists and health departments. Therefore, it was agreed to develop a questionnaire for distribution to pharmacists who serve as members of a board of health and also pharmacists that provide pharmaceutical service in health departments.

At the meeting on March 4th the Committee reviewed the questionnaire results. The tabulated questionnaires are included as an appendix to this report. There were 43 responses from pharmacists who serve on Health Boards and 19 responses from pharmacists employed by a health department.

The Committee on Public Health makes the following recommendations to the North Carolina Pharmaceutical Association.

1. Develop a statement on the role of the pharmacist who serves as a member of the Board of Health and another statement on what a pharmacist can do to assist the Department of Health provide public health services.
2. Send a letter to the appropriate person in the State Health Department expressing pharmacy's interest in assisting them in promoting an adult immunization program or other public health issues.
3. Consider developing, in cooperation with the State Health Department, a program for pharmacists who serve as members of a local Board of Health.
4. Consider publishing a newsletter which exchanges ideas between pharmacists who serve as members of the Board of Health and/or provide pharmacy services in health departments.
5. Publish in the *Carolina Journal of Pharmacy* an annual list of pharmacists who serve as a member of the Board of Health.
6. Encourage more local pharmacy associations to develop interactions with local health departments. This might occur by having the health director present programs about local public health issues and activities.

The Committee recommends that the Association formally oppose legislation which could do away with local Boards of Health and allow county commissioners to function in this capacity.

Respectfully submitted,

Fred M. Eckel, Chairman
John Barringer
John O. Brown
Jerry B. Kennedy
Evelyn P. Lloyd
John Myer
Charles Reed
Charles W. Rhoden Jr.
Hubert N. Rogers Jr.
W. Keith Elmore, Advisor

READER COMMENTS ARE WELCOME

All *Carolina Journal of Pharmacy* readers are invited to submit articles and letters to be published. Articles should be of general interest, double spaced and typed. Letters to the editor may refer to previously published articles in the *Journal,* Association activities, legislation or any topic of interest to the author. Letters should be limited to 300 words (exceptions may be granted) and should include the writer's name and telephone number. Letters must be signed, although names can be omitted on request. Letters will be published as space permits, but every effort will be made to publish promptly. Address all communications to Editor, *Carolina Journal of Pharmacy, P. O. Box 151, Chapel Hill, NC 27514.*

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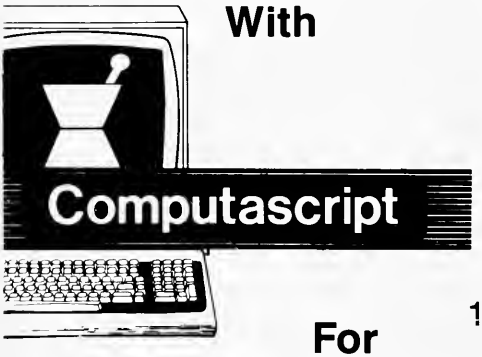

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Purchase price for these complete systems begins at $13,995.

Correspondence Course

Poison Ivy/Oak Reactions and Their OTC Remedies

By Thomas A. Gossel, R.Ph., Ph.D.
and J. Richard Wuest, R. Ph., Pharm.D.
University Consultants, Inc.

Goals

The goals of this lesson are to:
1. discuss the etiology and self-treatment of poison ivy and poison oak;
2. review the pharmacology and therapeutics of agents used to treat poison ivy and poison oak.

Objectives

At the completion of this lesson, the successful participant will be able to:
1. choose the appropriate OTC agent for treating poison ivy and poison oak;
2. properly advise consumers on the selection and use of OTC poison ivy/oak remedies.

"Leaflets three, let them be!" This adage best describes how the plants that cause poison ivy and oak dermatitis should be handled. They should be left alone! Everyone *should* recognize poison ivy and poison oak plants, and not worry about coming into unexpected contact with them. But, it is reported that very few people recognize these plants or can accurately identify them as being poisonous. Sixty-five to seventy-five percent of all Americans are thought to be sensitive to them.

This lesson identifies many of the common myths that exist about poison ivy and poison oak. It also discusses current treatment of poison ivy and poison oak dermatoses. Since most victims of plant-induced contact dermatitis visit a pharmacist before a physician, and since the vast majority of poison ivy and poison oak cases can be safely and effectively treated with OTC medication, this lesson is aimed at assisting in providing advice. Some of the common myths about poisonous plants and the resulting dermatitis reactions follow.

Most everyone recognizes poison ivy and poison oak!

Actually, the 3-leaf arrangement may be the only characteristic of these plants that remains constant. Many people, including those who spend prolonged periods of time in the outdoors, still admit to having trouble recognizing the plants. One reason is that the plants can assume a wide variety of sizes, shapes and colors, depending on where they are growing. Figure 1 depicts line drawings of poison ivy and oak plants.

Poison ivy (*Toxicodendron radicans*). The poison ivy plant (formerly called *Rhus toxicodendron* and *Rhus radicans*) usually grows as a woody vine attached to trees, rocks, fences, or other objects. Sometimes it may grow along the ground as a creeping vine. One of the authors cultivated, in the backyard of his country home, a free-standing (and beautifully-shaped) shrub measuring a full 6 feet tall, with a stem diameter exceeding 1½ inches, not realizing it was poison ivy. Shrubs and bushes exceeding this size by several feet have also been reported.

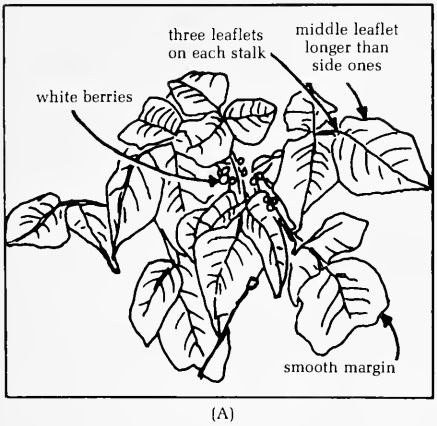

FIGURE 1.
Poison ivy (A) and poison oak (B) leaves.

The leaves grow on a stalk usually 3 to 4 inches long. They are odorless, pointed and oval-shape. During the spring and summer they appear green. During dry spells, or later in the summer and into autumn, they appear in various shades of yellow to red to brown.

The plant may or may not have flowers arranged in loose irregular clusters at the axis of the leaves which appear green-to-white in color. Grayish-colored, waxy fruits with vertical grooves are sometimes present. These fruits may remain attached throughout the winter.

Poison oak. Two varieties are common. Eastern poison oak (*Toxicodendron toxicarium*) is an erect, perennial plant that normally grows as a low, woody shrub that does not climb. It is often found along sandy areas, or, in the dry soils of oak or pine groves.

Western poison oak (*Toxicodendron diversilobum*), on the other hand, grows as an upright shrub with numerous stems emerging from the ground. Or, it may appear as vines growing on trees, telephone poles, or on other vines.

Poison oak leaves, also found in 3-leaflet clusters, are irregularly lobed and resemble oak leaves. The plants have green-to-white flowers which may or may not mature into flattened, berry-like fruits. These may also remain on the plant throughout the winter.

The shape and color of poison oak leaves vary depending on where the plants are growing as well as the time of year. In extremely shady areas, leaves are narrow and very thin. Leaves on plants growing in the shade tend to be broad and dull. In full sun, they are thick and glossy. Alongside dusty roads, they are normally dull and clusterless.

Poison sumac (Toxicodendron vernix). As can be seen in Figure 2, poison sumac leaves do not look like either poison ivy or poison oak. Its 7- to 13-leaflet clusters are arranged in pairs, with a single leaflet projecting from the middle. Poison sumac generally grows as a tall woody shrub, or coarse small tree.

Some people may not recognize these plants because they do not all grow in all parts of the country. Poison ivy is found throughout most of the U.S., except for parts of California and Nevada. Eastern poison oak grows within a large triangle formed by New Jersey, Texas and Florida. Western poison oak is found along the west coast from southern Canada to Mexico. Poison sumac is found from southern Quebec to central Florida, confined mostly to areas east of the Mississippi River. It prefers swampy, moist, boggy areas.

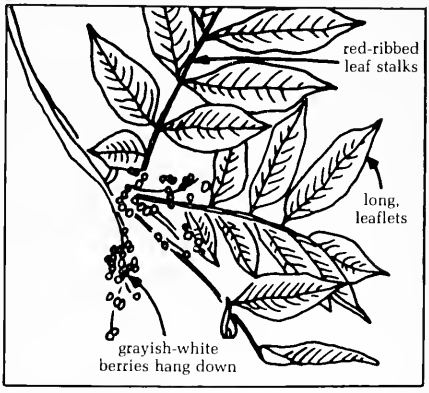

FIGURE 2.
Poison sumac leaves.

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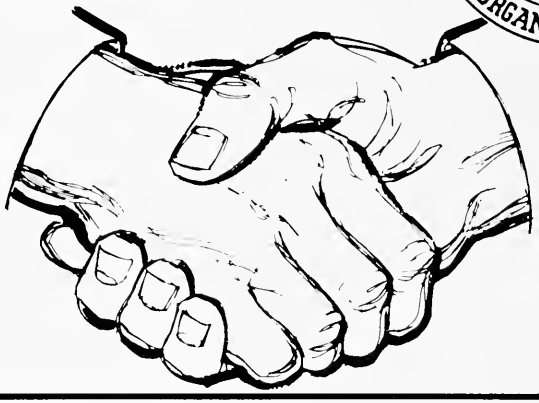

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Poison Oak/Ivy

Thus, it is possible that a person who has never been away from the west coast may not have seen poison ivy or poison sumac. An individual from a metropolitan or large urban area who visits the countryside infrequently may see any of these plants at different periods in their development, and not associate any particular feature with the potential to cause a dermatitis rash.

The one factor that each of these plants has in common, however, is that they all contain the same active allergen, an oleoresin complex called *urushiol.* As a group, these plants are the most common cause of plant-induced dermatitis in this country. An individual who is sensitive to any plant of the genus Toxicodendron will likewise be sensitive to any other plant of the genus.

Posion sumac is the least common cause of plant-induced poisoning of the group because it is generally found in uninhabited areas. Therefore, the remainder of this lesson is concerned mostly with poison ivy and poison oak. What is stated about the medical problems with these two types would also be characteristic of poison sumac. To simplify matters, we will refer to poison ivy and oak simply as poison ivy.

You only "get" poison ivy in the summer!

Question: What do you call a person who believes this? Answer: A fool who itches a lot in the winter!

Urushiol is distributed to all parts of the plant except the flowers, pollen and epidermis, through a canal system located within the plant structure. Simply touching a plant or rubbing against it will not cause a rash. However, when the plant is bruised or injured, urushiol is exposed and can contaminate any person or thing that touches it. As little as one microgram can initiate a rash in a susceptible person.

The danger of poisoning is greatest in the early spring and summer when the sap flow is most active. However, in the early fall when leaves are dry and fragile, an equally great danger exists. Also, even though the plant is dormant during the winter months, it is still alive and urushiol is still present. Thus, plant poisoning can occur during the winter as well.

Over the past few years, pharmacists have reported an increasing number of patients with poison ivy/oak dermatoses during the colder months. The problem has always existed around Christmas in nursery employees and others who dig or cut their own trees. It is now seen with more frequency because many Americans heat their homes during the winter with wood. Firewood may be cut fresh and brought into the home to be burned, or, it may have been cut and stacked months before. Either way, if poison ivy or oak vines growing on it are injured and then touched, dermatitis can occur, even months after the plant injury.

Direct contact with the plant is necessary to produce a reaction!

This misconception apparently originated with persons who swear they did not come into contact with an actual plant. But what most people do not recognize is that urushiol may be transmitted on clothing or shoes, garden tools, toys (golf clubs, etc.!), and animal fur. It may have been picked up several weeks to months before onto a pair of shoes which were set aside. Now, as the shoes are put on, the victim is contaminated and the reaction is initiated. Or, the family pet may have frolicked among poison ivy plants, and urushiol was deposited on its fur. As the pet's owner strokes the animal, contamination occurs. Time will slowly reduce the allergic quality of the causative oleoresin found on clothing and other inanimate items. Washing in hot, soapy water or dry cleaning the items if appropriate is the best way to remove the danger of subsequent contamination. Shoes should be cleaned with leather soap and polished. Contaminated animals should be bathed using rubber gloves.

Dermatitis rash can be prevented by washing after exposure!

There is some truth to this. If the area is washed with soap and water within 5 to 10 minutes of exposure, a reaction may be aborted, except in highly sensitive persons. Also, washing removes urushiol from under or on the nails, in the hair or from other areas where it may later come into contact with the skin.

One study involved persons who were slightly sensitive, and other persons who were highly sensitive to urushiol. Bruised

(Continued on Page 26)

Poison Oak/Ivy

leaves were applied directly to their forearms. Washing within 30 minutes prevented the reaction in some, but not in all of the less sensitive people. Washing within 60 minutes was totally useless in all of the individuals, regardless of their degree of sensitivity.

Urushiol rapidly penetrates into the skin, and attaches to skin protein. At this point, only minutes after exposure, it cannot be removed, not even with the best surgical soap, or even grandma's strongest lye soap!

Some people are naturally immune to poison ivy!

We all know people who have never experienced a poison ivy reaction. These people believe they are immune to it.

The fact is, they have probably never been sensitized! It is true that individuals' immune systems respond to antigenic challenges at different rates. Some people are highly susceptible to antigenic challenge and others are weakly susceptible. No one is one hundred percent immune.

Development of sensitivity. Urushiol is a mixture of four chemicals called catechols, all of which can cause sensitivity. It is termed a hapten because it is not antigenic by itself, but must combine with a protein within the body to form antigens.

Urushiol that contaminates the skin binds to skin proteins to begin antigen production. Special cells produced in the lymphatic system collect in the area and transport these antigens to the reticuloendothelial system. There, antibodies are formed which are then carried back through the vascular system where they are deposited ("fixed") under the skin.

An individual's first contact with urushiol initiates this reaction, and each subsequent contact adds to the total number of antibodies produced. The initial contact may even occur without the person's knowledge. The degree or extent of dermatological response is dependent on prior sensitization, which may have occurred weeks or years before, and on the number of antibodies formed.

Once sensitized (antibodies are formed and present under the skin), the individual may experience poison ivy dermatitis reactions

every time he comes into contact with urushiol, for the rest of his life. However, as with other immune processes, the extent of reactivity normally recedes with advancing age. Additionally, some individuals who have experienced an especially severe reaction at one point early in life are less sensitive thereafter. This may be due to a condition similar to hyposensitization which is discussed later.

Occurrence. As stated above, as many as 75 percent of all Americans are sensitive to poison ivy and oak. Occurrence is somewhat related to age, as depicted in Figure 3.

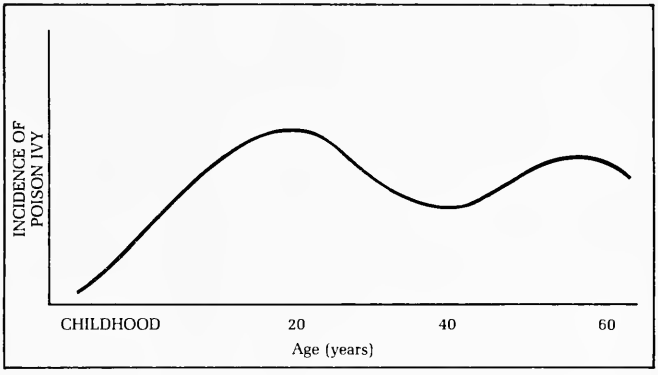

FIGURE 3.
Incidence of poison ivy expressed by the individual's age.

Infants and very young children seldom contract poison ivy. Remember, sensitivity must be acquired from exposure to the plants. Also, the reticuloendothelial system (specialized cells that produce antibodies) of small children is not sufficiently functional to produce antibodies. This system develops with age.

Between ages 20 and 40, the incidence of urushiol poisoning reactions seems to decline, probably because people devote more time to their careers than to outdoor activities. The increase in incidence of reactions noted during our 40's and 50's represents our quest for renewed vigor or search for "youth", a pursuance of a second (more relaxed) career or lifestyle while living in the suburbs or country, or simply to taking time out to play ball with the children or grandchildren. And then, as the years roll on, the reticuloendothelial system becomes less responsive and antibodies which were perhaps formed years before are less reactive with antigens. With advancing years, many people are exposed to the cause less frequently. Thus, they experience a lowered incidence of allergic reactions.

Allergic reactions due to exposure to other sources of antigen. Individuals who are sensitive to plants of the genus Toxicodendron may also experience dermatitis following exposure to components of plants from other genuses. For example, an oil from the cashew nut shell or from the skin and stalks of the mango fruit tree can cause the response. The Japanese lacquer tree is the source of a rich lacquer that is used to finish fine furniture. Unsuspecting persons may find elbows or arms itching if they come into contact with such pieces of furniture.

Poison ivy is contagious and is spread by blister juice!

This is one of the most common misconceptions. It is perpetrated because a rash frequently appears initially on one area of the body, then, perhaps days later, may appear on another area. Or, "streaking" of the rash appears after scratching an area. The person interprets this "secondary" reaction as a response of having spread the disorder through scratching the original rash and contaminating the other sites with blister juice.

Poison ivy blister juice does not spread the rash. This liquid is serum that collects as a response to an antigen-antibody-induced inflammatory reaction occurring beneath it. There is no antigen present in it. In fact, experiments have demonstrated that when the liquid from blisters of one individual is placed on the skin of another sensitized individual, the second person DOES NOT develop the rash.

(Continued on Page 28)

Poison Oak/Ivy

The appearance of a rash at some other site occurs because various parts of the body have different sensitivities to the allergen. The same reasoning holds for "streaking." Streaking occurs because this is the pattern in which the specific antibody formed in response to antigens, becomes fixed to the skin. But the concentration varies in different areas of the body. A sensitized individual who comes into contact with the antigen will most likely experience the initial rash at or near the same site, regardless of where the urushiol was absorbed. This corresponds to the site of greatest antibody concentration. Then, with time, as other sites (having lesser antibody concentrations) become activated by interaction with circulating antigen, they also develop the typical rash. So the appearance of the delayed response is independent of scratching the initial rash, or contamination of one part of the body with blister juice from another.

Symptoms

Symptoms of poison ivy generally appear within 12 to 24 hours although they may not show for 3 days. The first symptom is itching, followed by redness, inflammation, warmth, and blisters. Tender, thin skin (e.g., eyelids, genitalia) is more frequently involved than hairy areas of the body.

Most cases heal without permanent damage. If itching is not relieved and the victim scratches ravishingly, infection may result. On occasion, severely affected individuals will develop complications including blood changes, kidney damage, occasional psychotic reactions, dyshidrosis (disturbance in sweat production or excretion) and pigmentary changes.

Treatment

The choice of treatment depends on the severity of the reaction and the affected sites. The primary objectives are directed toward relieving itching and discomfort, and protecting damaged skin until the acute reaction has subsided. Normally, poison ivy reactions are self-limited to 1 to 3 weeks.

A variety of OTC medications are available to assist in attaining both objectives (Table 1). These are largely the same products that have been discussed in previous lessons in this series. Additionally, wet soaks (explained in a recent article, "Advising Patients on Dermatitis and its Treatment") are extremely useful for relieving itching when the blistering is severe, or anytime between applications of antipruritic products. Oftentimes, plain water will help. Hot water should be avoided. Even though it may initially produce a slight numbing effect, overall it generally intensifies the itching once the area returns to its normal temperature.

TABLE 1
Commercially Available Poison Ivy Remedies

Product	Astringent	Counterirritant	Local Anesthetic	Antihistamine
Caladryl	Calamine	Camphor	—	Diphenhydramine
Calamatum	Calamine, ZnO	Camphor, menthol, phenol	Benzocaine	—
Calamox	Calamine, ZnO	Camphor, phenol	—	Pyrilamine
Calamycin	Calamine, ZnO, Zirconium oxide	—	Benzocaine	Pyrilamine
Dalicote	ZnO	Camphor	Diperodon	Pyrilamine
Hista-Calma	Calamine	—	Benzocaine	Phenyltoloxamine
Ivarest	Calamine	—	Benzocaine	Pyrilamine
Ivy Dry cream	Tannic acid	Camphor, menthol	Benzocaine	—
Ivy Dry liquid	Tannic acid	—	—	—
Rhulicream	Zirconium oxide	Camphor, menthol	Benzocaine	—
Rhuligel	—	Camphor, menthol	—	—
Rhulihist	Calamine, ZnO	Camphor, menthol	Benzocaine	—
Rhulispray	Calamine	Camphor, menthol	Benzocaine	—
Sting-Eze	—	Camphor, phenol	Benzocaine	Diphenhydramine
Surfadil	—	—	Cyclomethycaine	Diphenhydramine
Tyrohist	Calamine	Camphor, menthol	Benzocaine	Pyrilamine
Ziradryl	ZnO	—	—	Diphenhydramine

Antihistamines. Topical antihistamines are not recommended by many experts for treating poison ivy reactions. These agents offer little benefit in suppressing contact dermatitis reactions. Although they provide a mild antipruritic activity (through a local anesthetic action), they may sensitize the user to additional complications of an allergic nature. Systemic antihistamines help some patients and, in large doses, may provide a slight sedative action to lessen the severity of the itch sensation. This effect is nonspecific, however, and it is unacceptable to some individuals who must remain mentally alert.

Local anesthetics prevent the generation and conduction of action potentials in sensory nerve fibers. As such, they inhibit the transport of impulses from the area to which they are applied, and thus reduce itching. Benzocaine, diperodon and lidocaine are among the local anesthetics that have been ruled to be safe and effective by the DFA panel reviewing external analgesics.

Antiseptics. Alcohol and other antiseptic agents are included in poison ivy products. However, they are not needed if care is taken to prevent the skin from severe damage by vigorous scratching. On the other hand, alcohol can be an effective antipruritic. It is thought to be the "active" ingredient in witch hazel. When alcohol-containing products are used, the benefits are probably due to this activity rather than reducing bacterial growth.

Astringents. Through the years, astringents have been used to treat weeping lesions, such as those caused by poison ivy. Traditionally, topical astringents have been defined as substances which are applied locally to precipitate skin proteins, and contract (wrinkle) the tissue. They harden the cement substance of the capillary endothelium, which inhibits movement of plasma proteins across the capillary membranes. This reduces local edema/exudate, and, therefore, dries the area.

The astringent with the best track record, as it relates to proof of effectiveness for poison ivy, is aluminum acetate (Burow's solution). In fact, it is the only astringent that the FDA Advisory Panel on External Analgesics ruled to be safe and effective for such use. The panel concluded that, based on the current literature and wide clinical usage, aluminum acetate in a 2.5 to 5 percent (1:40 to 1:20) strength can be indicated for: "Use as a wet dressing, compress or soak for relief of inflammatory conditions and minor skin irritation due to allergies, insect bites, athlete's foot, poison ivy or swelling associated with minor bruises and ulcerations of the skin."

The panel ruled that witch hazel was a safe and effective astringent for some of these indications, but did not include poison ivy.

Other astringent agents that are claimed to be effective in treating poison ivy include iron salts, tannic acid, zinc oxide (and calamine) and zirconium oxide. There is no doubt that ferric chloride and tannic acid have astringent activity. However, absolute proof of their safety and effectiveness in treating poison ivy has not yet been demonstrated.

One problem with ferric chloride is that it can stain the skin. The FDA panel that reviewed tannic acid for use in treating burns commented that its safety, when applied to damaged skin, is questionable.

Zinc oxide and calamine (which is basically zinc oxide with 0.5 to 1% ferric oxide added for color), while only slightly astringent, was ruled to be an effective adsorbent/drying agent. The panel that was responsible for OTC skin protectants indicated that zinc oxide and calamine, along with aluminum hydroxide gel, corn starch, dimethicone, kaolin and zinc acetate, are safe and effective for topical application to alleviate the "wetness" of poison ivy. These agents do not, however, improve the condition or relieve the itching as does aluminum acetate solution.

Not everyone agrees that the use of zinc oxide, calamine, and other "shake lotions" on poison ivy lesions affords relief to the patient. These agents dry on the skin to form a paste, and opponents of their use feel that the "drawing" effect that results is a sensation that is more objectionable than the original itching. They further claim that when these substances dry, they impede the ability of subsequently applied effective medications (e.g., hydrocortisone cream) to penetrate down to the affective area.

One final "astringent" is zirconium oxide (or carbonate). Since its introduction into poison ivy remedies, it has accumulated a far greater number of opponents than proponents (except, of course, the manufacturers.) *Remington's Practice of Pharmacy* states that it is

(Continued on Page 30)

Poison Oak/Ivy

not only an ineffective astringent, but it actually can cause granuloma formation through an allergic process. The FDA panel that reviewed external analgesics listed it as an inactive ingredient.

Counterirritants. Camphor, menthol and phenol all produce a local anesthetic action through their "cooling" sensation. In low concentrations, they depress the skin's receptors that respond to itching. However, their use in effectively treating the itching of poison ivy has not been proven.

Steroids. Topical hydrocortisone products are rational therapy and are approved by the FDA for treating poison ivy dermatitis. Their use, directions, and overall utility have been discussed in previous lessons in this series. OTC products that contain 0.5 percent hydrocortisone are effective for reducing itching and protecting underlying skin in mild cases. Patients should be advised not to expect immediate relief. It may take a day or so for the antipruritic effect to become evident. Applying the hydrocortisone product in large amounts or more often than directed will induce no additional benefits. Instead, it will waste the consumer's money.

Should the blisters be broken? If the dermatitis is sufficiently severe to cause blistering, these vesicles (blisters) may be opened. This will allow for easier penetration and absorption of topical medication into the dermis where it is needed. As stated above, blister juice is the body's serum and will not cause a further reaction if it touches another part of the body or another person. Although may physicians advise that blisters should only be opened aseptically by them, others state that this can be safely done at home. Conscientious consumers can be directed to carefully lance the blisters at their edge (not on top) so the serum can drain. Slight pressure can be applied to express the juice if necessary. The skin on the top of the blister should be preserved because it protects the epidermis beneath it from injury and infection, and assists the healing process. Once drained, an emollient cream or ointment product (versus a liquid) should be applied to keep the area soft and moist.

Hyposensitization

American Indians were known to chew poison ivy leaves to prevent getting the rash. This is a very risky procedure and is not recommended. Reports of intense swelling of the mouth and tongue, pharynx and anal region attest to the potential danger.

Hyposensitization of a severely sensitized person is utilized by some dermatologists. The procedure reduces the severity and duration of response in some patients. It doesn't completely desensitize them, and often sensitivity to poison ivy/oak normally returns within 6 months. Also, administering urushiol to an extremely sensitive person is associated with certain risks.

Hyposensitivity procedures involve administering a series of doses of urushiol, orally or intradermally, beginning with diluted concentrations, which are increased over a period of time. The idea is based on the antigen's ability to stimulate formation of high blood levels of a specific immunoglobulin (antibody) which then combines with urushiol from plants if contact is made later on. If urushiol binds to this circulating antibody, the complex keeps the antigen away from the fixed antibody which would normally initiate the inflammatory response.

Killing The Plants

A large variety of herbicide products which are claimed to eradicate poison ivy and oak plants is available. Pharmacists should advise persons who have these plants growing near their homes to destroy them if possible. A highly recommended product contains 2,4-D (2,4-dichlorophenoxy acetic acid). This herbicide should be applied to the leaves during the active growing season. It will be transported throughout the plant and kill it from within. Within a couple of days, the plant will begin to wither and eventually die, although a second application may occasionally be needed. After the plant has died, it can be carefully removed and discarded.

If the dead plants are then burned, consumers should be reminded to avoid contact with the smoke. While urushiol itself cannot be carried through the air, it can be carried by smoke particles. Because of the nature of smoke contamination, much more severe reactions may result than if the antigen came into contact with only a limited area of skin.

Pharmacist's Note

It is estimated that approximately one-half of all persons with poison ivy, oak or sumac can be successfully treated with OTC medications and home remedies. Occasionally, a person may experience an intensely severe reaction. When this occurs, the patient should be referred to a physician. As with most severe inflammatory responses, systemic steroids may be the treatment of choice for alleviating the person's discomfort. Additionally, if swelling is severe, respiratory distress may be encountered.

(Test on Page 33)

EFFECTIVE COLLECTORS PROVIDE FINANCIAL ADVICE

They are counselors, financial advisors, and often, understanding friends. They are cursed at, lied to, and thanked. They are I.C. System's telephone collectors.

If the image you have of a collector is a burly six-foot hulk, then you are in for a surprise.

Perci Berry is no hulk. Yet this five-foot three-inch woman has collected thousands of dollars for clients of I.C. System.

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The technique, Perci explains, involves becoming a counselor to a debtor, working together to resolve a financial problem. "We say to debtors, 'We need your help.' Then we don't become their creditor's strong-arm, so to speak, we become the person who is going to help them clear up a problem," she said. "We are counselors."

As counselors, Perci and her co-workers provide debtors with financial advice. After two years as a collector, Julia Denault has learned that many times people have assets they are not even aware of that they can borrow against. "We make these suggestions and provide ideas to help debtors through their financial troubles," Julia said.

Often times, collector Kim Stevens finds debtors are not looking at their priorities. "They put a bill aside because it has been outstanding for so long they feel it can go a little longer," Kim said. "Or they feel since it's not the car or mortgage payment, it can wait." She added, "We point out to them that it is important."

"I stress to debtors that they have a moral obligation to pay," Kim continued. "I tell them this person trusted you by extending credit, now you have a moral obligation to help him out."

In some cases the collectors find a debtor is simply not able to pay. "If after looking over a debtor's funds I feel he really is not able to pay," Kim said, "I try to set up a payment plan that will not involve serious hardship to him, but will get the debt cleared up."

Many times an unpaid bill is traced back to a dispute over the purchased goods or service. Julia explained that although the dispute may have some merit, the debtor must do more than just ignore the bill.

"Consumers have an obligation to register a dispute—to go back and seek satisfaction," she said. "Take the product back. Go back to where you bought it and tell them what's wrong."

As an experienced collector, Julia feels it is important to give the creditor an opportunity to make a satisfactory settlement. "Most creditors, most businesses we work with, are very conscientious about satisfying complaints, whether it's a partial refund or doing the work over again," Julia said.

Working together, the collector and debtor can resolve a dispute, negotiate payments or discuss a solution to a financial problem. In this role, telephone collectors have proven to perform an important function in the recovery of accounts for clients of I.C. System.

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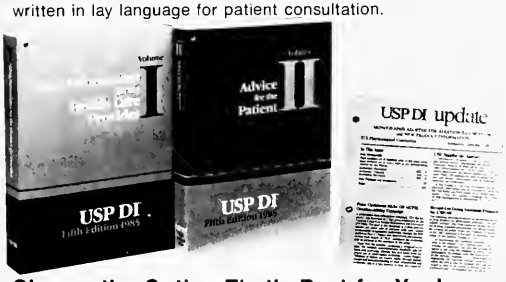

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Correspondence Course Quiz

Poison Ivy/Oak

1. Which of the following statements is true?
   a. The flowers and pollen of poison ivy plants contain the rash-causing allergen.
   b. Touching poison ivy leaves will cause an allergic reaction regardless of whether they are damaged or intact.
   c. Even though poison ivy plants are dormant in the winter, they can still cause dermatitis reactions.
   d. When the poison ivy leaves become dry and fragile in the fall, they will not cause poisonings to a person who comes in contact with them.
2. The group of topically applied agents that has exhibited the greatest benefit in alleviating the symptoms of mild poison ivy allergy reactions is:
   a. antihistamines c. astringents
   b. antiseptics d. counterirritants
3. The best advice to give a poison ivy sensitive person who wants to destroy the plants is to:
   a. pull them out of the ground and place them in a plastic garbage bag.
   b. spray them with the appropriate herbicide and let them die on the vine
   c. wait until they dry out in the fall and then burn them right where they are growing to assure destroying the roots
4. A poisonous plant that has stalks containing three, marginless, odorless, oval-shaped, smooth margined leaves best describes:
   a. poison ivy c. poison sumac
   b. poison oak
5. The specialized cells in the body that produce antibodies to poison ivy antigens are called:
   a. bone marrow cells
   b. granulocyte cells
   c. hepatolymphatic cells
   d. reticuloendothelial cells
6. *Toxicodendron toxicarium* is the botanical name of:
   a. perennial poison ivy
   b. Eastern poison oak
   c. seasonal poison sumac
   d. Western poison oak
7. The oleoresin complex that is the active allergic principle in poison ivy, oak and sumac is:
   a. immuglobulin c. toxicodendriol
   b. rhus toxicosis d. urushiol
8. The active component of calamine is:
   a. corn starch c. talc
   b. kaolin d. zinc oxide
9. The type of poisonous plant that is found in the most extensive portions of the U.S. is:
   a. poison ivy
   b. poison oak
   c. poison sumac
10. When relieving poison ivy-induced skin irritation, aluminum acetate exerts all of the following effects **EXCEPT:**
    a. chemically neutralizing the plant allergens
    b. contracting the skin's tissue
    c. hardening the cement substance of capillary endothelium
    d. precipitating skin protein
11. All of the following poison ivy remedies contain calamine, benzocaine and an antihistamine **EXCEPT:**
    a. Ivarest c. Ivy Dry
    b. Hista-Calma d. Calamycin
12. Of the commonly held concepts about poison ivy, which is most likely to be true?
    a. Direct contact with the plant is necessary to produce an allergic reaction.
    b. Dermatitis rash can be prevented by washing the affected area immediately after exposure.
    c. Many people are naturally immune to poison ivy.
    d. Poison ivy is contagious and spreads with blister juice.
13. A poisonous plant that contains 7-13 leaflet clusters arranged in pairs with a single leaflet projecting from the middle best describes:
    a. poison ivy
    b. poison oak
    c. poison sumac

Poison Oak/Ivy

14. Which of the following is most likely to be the active ingredient in witch hazel?
    a. alcohol
    b. tannic acid
    c. zirconium oxide
    d. hazel nuts
15. According to the FDA panel that reviewed poison ivy remedies, all of the following are effective in reducing itching **EXCEPT:**
    a. Burow's solution
    b. hydrocortisone
    c. benzocaine
    d. zirconium oxide

CHAPEL HILL

A man wielding a butcher knife robbed the Revco Drug in Ramshead Plaza Wednesday afternoon, December 27 and escaped with an undisclosed quantity of drugs. Police said the man pointed the knife at a clerk and stated what drugs he wanted. He left on foot.

RALEIGH

More than two hundred dollars worth of prescription drugs was reported stolen from a Raleigh Revco store, sometime between 9 p.m. Wednesday, January 31, and 3:16 a.m. Thursday, February 1. Demerol, Dalmane and Dilantin with Phenobarbital were the drugs listed as stolen.

REYE SYNDROME

Voluntary labeling provision programs have begun by the major marketers of aspirin and aspirin-containing products intended for use in the treatment of symptoms associated with flu or chickenpox. The Food and Drug Administration supports these programs and encourages pharmacists to help spread the message about the possible association between the use of aspirin and the onset of Reye Syndrome. Pharmacists can play a major role in communicating this message to patients.

Posters are available from the Public Health Service, Department of Health and Human Services in Washington. For a supply

The large box camera used during the "Thanks, Colorcraft" surprise party at the 1984 Annual Convention was operated by the wearer, Vivia Creech, Smithfield. Posing for posterity are Horace Lewis, right and Ray Smith, Executive Vice President of Colorcraft. Photo by Colorcraft

of posters, or to ask any questions about this matter, contact Tony Langston, P.D., Office of Consumer and Professional Affairs, FDA, Telephone (301) 443-1016.

CAMPBELL UNIVERSITY ANNOUNCES NEW SCHOOL OF PHARMACY

Dr. Norman A. Wiggins, president of Campbell University, announced plans to establish a school of pharmacy offering the Doctor of Pharmacy degree, beginning with the charter class in August, 1986. Consideration of a school of pharmacy at Campbell University was begun in 1975, with a comprehensive feasibility study initiated in 1981.

The announcement was made to the Council on Christian Higher Education of the Baptist State Convention of North Carolina meeting in Raleigh on January 28, 1985. Present for the announcement were Dr. Oliver Littlejohn, vice president and dean of the Southern School of Pharmacy of Mercer University at Atlanta, Ga., and consultant for Campbell's proposed school, and Dr. Jerry M. Wallace, provost of Campbell University.

Among reasons presented for Campbell's decision to establish a school of pharmacy were the shortage of professional pharmacists in North Carolina and throughout Southeastern United States; the fact that only two Southern Baptist colleges or universities offer pharmacy education; the need for additional programs leading to the Doctor of Pharmacy degree; the availability of only one school of pharmacy in a state that has four medical schools, a dental school, and a school of veterinary medicine; and the projected population growth in North Carolina and the Sun Belt region.

The University will be working closely with the American Council on Pharmaceutical Education in implementing plans and policies that will lead to pre-candidate status and ultimate accreditation for the proposed school of pharmacy.

In commenting on the decision, Dr. Wiggins said: "We are excited about the school of pharmacy at Campbell University. Our intention is to build a program of high quality and unique purpose which is compatible with Campbell's Christian liberal arts tradition and the church's role in evangelism, missions, education, and worship."

REPORT OF THE NOMINATING COMMITTEE

We, the 1985 Committee on Nominations, do present the following slate of officers in accordance with the By-Laws of the North Carolina Pharmaceutical Association. This slate, together with any nominations from the Convention floor, will be submitted to the membership for mail ballot within thirty days after the adjournment of the 1985 Annual Meeting.

Those officers duly elected will be installed at the next Annual Meeting and will serve for the 1986-87 year unless otherwise noted.

FOR FIRST VICE PRESIDENT
(President-Elect)

W. Keith Elmore, Wilmington
Julian E. Upchurch, Durham

FOR SECOND VICE PRESIDENT

Albert F. Lockamy, Jr., Raleigh
William T. Sawyer, Charlotte

FOR THIRD VICE PRESIDENT

W. Robert Bizzell, Kinston
George M. Willets, III, Wilmington

FOR MEMBER OF THE EXECUTIVE COMMITTEE
ONE YEAR TERM (Elect Three)

Joseph A. Edwards, Jr., Raleigh
Marilyn A. McConnell, Greensboro
Billy L. Price, Jr., Conover
Pamela U. Joyner, Raleigh
Donald V. Peterson, Durham
Thomas R. Thutt, Kinston

FOR DIRECTOR OF THE N.C. PHARMACY FOUNDATION
FOUR YEAR TERM (Elect Four)

Charles D. Blanton, Jr., Kings Mtn
William H. Edmondson, Durham
Robert B. Hall, Mocksville
Albert P. Rachide, Jacksonville
G. Thomas Cornwell, Morganton
Sara Jackson Hackney, Lumberton
W. Whitaker Moose, Mt. Pleasant
W. Artemus West, Roseboro

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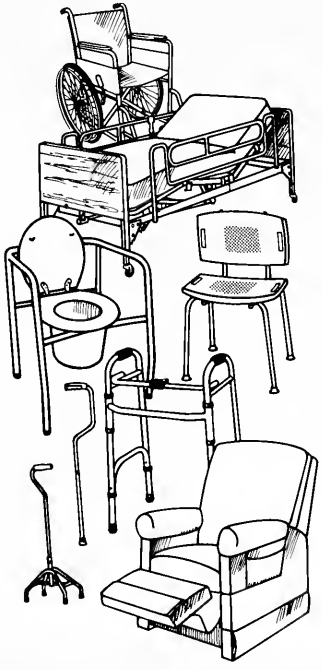

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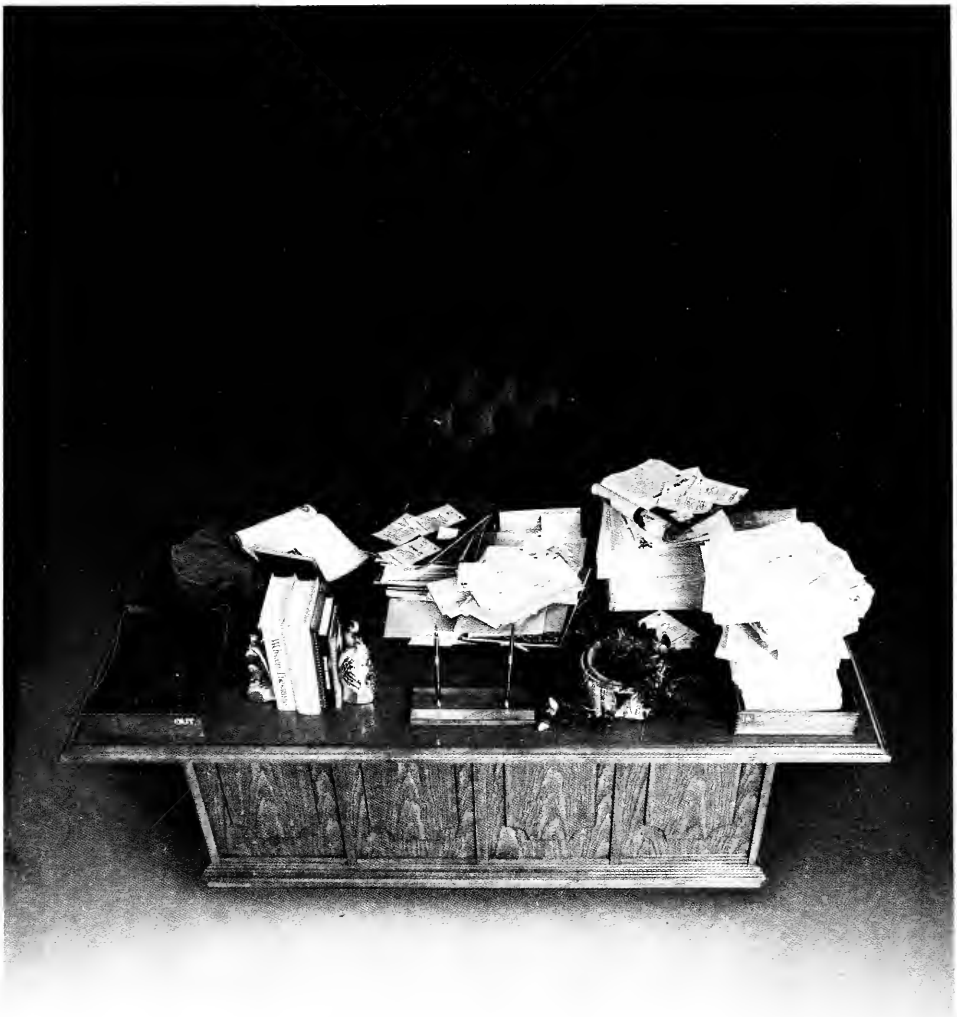

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REPORT ON THE TASK FORCE ON THE IMPAIRED PHARMACIST

North Carolina Pharmaceutical Association
North Carolina Society of Hospital Pharmacists

December 10, 1984

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Staff Assistant
James W. Normark, Chapel Hill

Background:

In October of 1983, President David Claytor of the North Carolina Pharmaceutical Association and President Jean Douglas of the North Carolina Society of Hospital Pharmacists jointly established the Task Force on the Impaired Pharmacist. Four active members of each organization were appointed to the Task Force, with two members serving as co-chairman representing the two organizations. The change to the Task Force was as follows:

> ". . . to study the incidence [prevalence] of impairment among N.C. pharmacists, and if a problem exists, recommend an appropriate program to deal with the impaired pharmacist. The Task Force should identify costs associated with the program, and potential sources of resources and funds to assist in the program."

Task Force Activities:

During the period of late 1983 and early 1984, the Task Force members received over 30 publications on the subject of drugs, alcohol and other impairments of pharmacists and other health professionals in an attempt to bring all members to a common base of understanding of the literature in this area. This information included descriptions of the two impaired pharmacists programs which were operational at that time, in Texas and Virginia. Also early in 1984, the Task Force gratefully accepted the services of Mr. James W. Normark as staff assistant. Mr. Normark, a graduate student in the Division of Pharmacy Practice at the U.N.C. School of Pharmacy, was able to match his research interests in pharmacist impairment with the Task Force's need for data collection and evaluation of the problem. Mr. Normark's contribution to the efforts of the Task Force cannot be overestimated.

The Task Force first met together on April 9, 1984 in conjunction with the annual meeting of the North Carolina Pharmaceutical Association. At that meeting the basic components of the data collection and analysis project were developed. First, disciplinary actions of the N.C. Board of Pharmacy for the year 1974-1983 were reviewed and tabulated by the staff assistant, and categorized as to presence or absence of impairment. (See definition of "impairment" in the Pharmacist Questionnaire.) Then, during the summer of 1984, questionnaires were sent to all practicing pharmacists in North Carolina. Of the 3980 surveys mailed, responses were received from 1,370 practitioners (34%). Funding for the survey was provided by the N.C.Ph.A. and N.C.S.H.P. Administrative support was provided by the U.N.C. School of Pharmacy. Additionally, students of the U.N.C. School of Pharmacy were surveyed to develop a profile of student perceptions of the impairment problem. During the late summer and early fall, the results of these surveys were tabulated for review by the Task Force. Copies of the questionnaires, tabulations and Board of Pharmacy data are attached to this report.

Finally on October 11, 1984, the questionnaire responses were presented as a part of a formal presentation on the problem on pharmacist impairment at the Fall Seminar of the North Carolina Society of Hospital Pharmacists. During that meeting the Task Force met again as a group to formulate its report and recommendations.

Task Force Position and Recommendations

It is the unanimous concensus of the Task Force that the problem of pharmacist impairment in North Carolina is a significant one, and that the data from the Task Force Survey amply demonstrate that

problem. Over two-thirds of pharmacists responding to the survey expressed the need for such a program. An even larger percentage of students perceived impairment as a problem for some of their colleagues.

The Task Force believes that North Carolina is in a unique position to create a truly exemplary program. The cooperation among the N.C.Ph.A., N.C.S.H.P., School of Pharmacy and the Board of Pharmacy in establishing and supporting the Task Force has not been approached by any other state program. The data generated by the survey is, as far as the Task Force can determine, not available in any other state whether operating an impairment program or not. The state has an extensive health professional education network (AHEC) in place to assist in the educational portion of any program that is developed. And resources such as the Center for Well-Being of Health Professionals, and the Health Services Research Center are unique to our State.

The Task Force therefore recommends to the Boards of Directors of its sponsoring organizations that they jointly establish an impaired pharmacist program. While it is reluctant to set forth a detailed programmatic format, the Task Force believes the following components are essential to any program to be developed:

A) Broad-based education of the profession regarding the impairment problem and the goals and methodologies of the program.

B) A mechanism for assessing the validity of reports of pharmacist impairment.

C) An effective intervention program utilizing well-trained volunteer colleagues to assume the intervention and advocacy role.

D) A strategy for treatment referrals which is equitable and unbiased and which addresses the impaired colleague's needs first.

E) A strategy for effective monitoring and follow up of clients to assure compliance with the rehabilitation program.

The Task Force believes that the key to success of any program will lie in its efforts to *be an advocate* for the impaired colleague, both to encourage and monitor treatment and rehabilitation and to *maintain confidentiality* regarding the colleagues treatment and rehabilitation. Without these two essential foci, the chances for success of the program are remote.

The Task Force stands ready to continue to work with all parties involved in this important issue. However, we feel that we have completed the task assigned in the original charge and therefore await discussions by the N.C.Ph.A. and N.C.S.H.P. as to the next steps in the process. The Task Force would encourage the Associations to consider a joint meeting of their Boards, the Task Force, School of Pharmacy and Board of Pharmacy representatives in a reasonable period of time following their receipt and review of this report. At that time more detailed components of a proposed program including cost projections could be discussed and debated by a broader spectrum of interested parties.

The Task Force expresses its appreciation to all persons who have facilitated its efforts over the past year. Like them, we are enthusiastic about the potential of an Impaired Pharmacist Program to improve the quality of life and practice of our impaired colleagues in North Carolina.

DEAN MIYA RECEIVES AACP AWARD

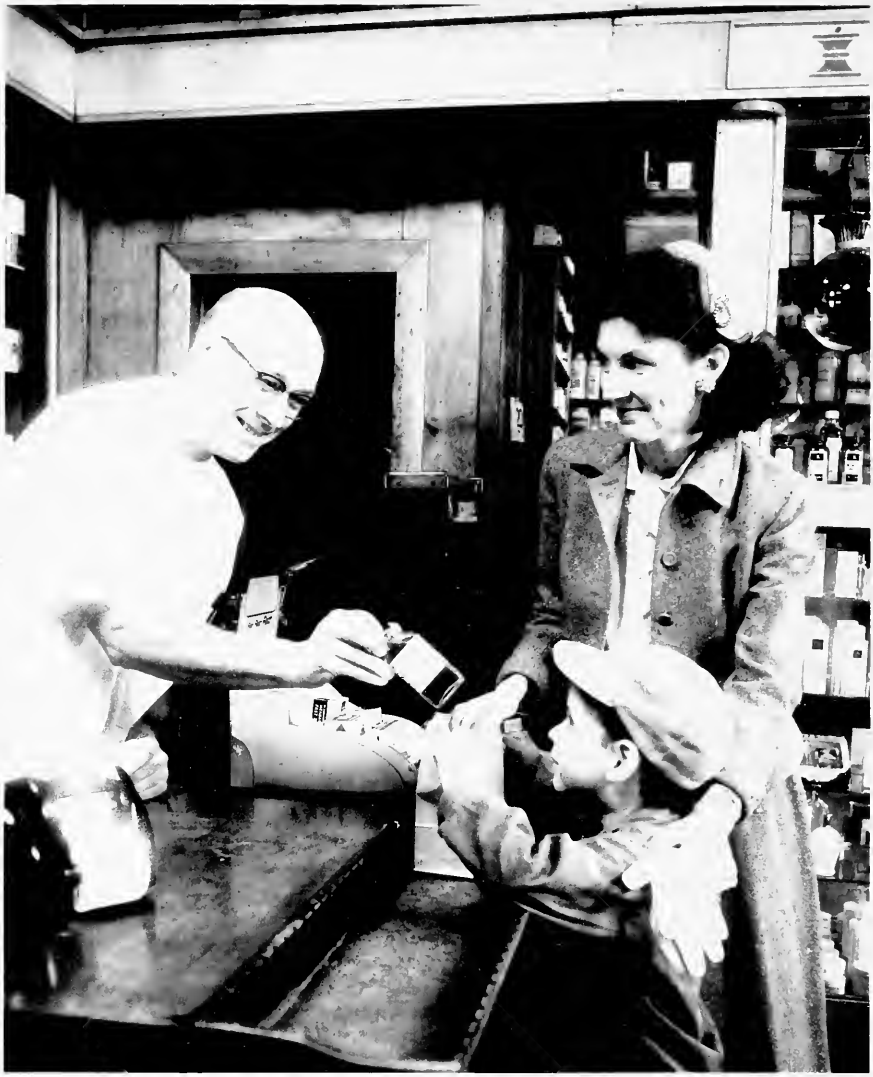
Tom S. Miya, Ph.D., Dean of the UNC School of Pharmacy was announced as the recipient of the Distinguished Pharmacy Educator Award for 1985, presented by the American Association of Colleges of Pharmacy. The award is given for consistent commitment and contribution to quality pharmacy education.

Nominations for this award are submitted by individual AACP members, or by the chairman of the various committees or academic sections of the Association. The final determination is made by the AACP Board of Directors after a review of each nomination and qualifications. The award will be presented at the AACP Annual Meeting to be held this year in San Francisco, in July.

Dean Miya was selected in recognition of his contributions to undergraduate instruction, research and contributions to scholarly activities in graduate education and creative contributions to pharmacy's organizations and literature.

NEW DEA NUMBERS

You will be seeing new Drug Enforcement Administration registration numbers soon. The new numbers, which are being adopted to enable DEA to go "on-line" with its registration system, will begin with a "B" rather than an "A" for practitioners, and a "P" rather than an "R" for manufacturers and distributors. The new system will also result in the assignment of a life-time DEA registration number. Both old and new numbers will be in effect over the next two years as DEA switches over to a three-year rather than annual registration cycle. The check digit algorithm used to verify the authenticity of DEA numbers remains unchanged.



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"CONSPIRACY OF SILENCE"

by
Dennis F. Moore, Pharm.D.

Presented at the Fall Clinical Seminar
North Carolina Society of Hospital Pharmacists
Raleigh, N.C. — October 11, 1984

When one mentions the concept of the impaired health professional, the interest in many circles is identification and removal from active practicing of said profession. Whether physician or nurse, the implication is that the person's professional functioning should be above reproach in exercising his responsibility to his patients. However, it is becoming increasingly obvious that many of these health care professionals do suffer from impairment. We of the committee understood our charge as ascertaining the problem of impairment among pharmacists of North Carolina and, if necessary, make recommendations to the parent associations as to what steps should be taken to alleviate the problem.

Impairment Versus Incompetency

Clear delineation must be made between impairment and incompetency. Impairment means that the necessary skills are available to the practitioner, yet the person is not able to utilize those skills because of drug or alcohol abuse, psychiatric illness, and/or physical disorders.

Incompetency, on the other hand, implies that the necessary skills for safe practice are not present. This is a problem for the schools, regulatory agencies, and to some extent the professional association. However, it is not under the purview of this committee because of the separateness of the issues involved.

Few good studies have identified the extent of impairment among pharmacists. Some suggest it is as common as among other health care professionals. Most studies have involved physician and nursing groups. It is unclear whether this lack of attention to pharmacists is the result of no perceived problems, the small number of pharmacists when compared to other groups, or the lack of clinical orientation of the profession. However, recent evidence from the Board of Pharmacy and treatment centers suggests a growing incidence of impairment that would warrant attention to preserve the integrity of the professionals, as well as protect the health and welfare of those which they serve.

If one explores the cause of impairment among health care practitioners, drug and/or alcohol is involved in 80-90% of cases. It appears that psychiatric and physical problems, while significant, are not accounting for major numbers of impaired professionals.

Addiction

In our society when one thinks of addiction, the stereotype of the skid row derelict or the long-haired social deviant comes to mind. The truth is that those groups constitute a small percentage of those addicted to alcohol and other drugs. The majority of those addicted are productive members of our society. This attitude is one factor in delaying identification of addictive behavior. Another problem in recognition is the liberal and and accepting attitude we have toward drug/alcohol use. If we expect most of our citizens to use alcohol and condone its abuse, then the manifestation of addictive behavior to the untrained observer may blend into the landscape of expected deviance. Additionally, few health care professionals have been trained in recognizing alcoholism/drug dependency. Thus, in the health care environment, conditions are ripe for the development of addiction. Lack of training, increased stress, acceptance of drug/alcohol use, availability of the chemicals and lack of strong social sanctions against abuse (especially of alcohol) perhaps place the group at higher risk. When one factors considers that these combined with the fact that some have a genetic predisposition to the illness, addiction will inevitably occur among professionals. Whatever the percentage, without a system of recognition and treatment, the potential for tragedies exist.

Alcoholism, the most prevalent of all addictions, is recognized as one of our nation's major health problems. It has been recognized for almost three decades by the medical profession as a disease. However, because of the above mentioned lack of training and the fact that its presence is usually denied, it continues to take a tremendous toll on our society. The disease concept of addiction is synonymous with a healthy approach to the impaired professional. Anyone reading this document that questions the disease concept should consider reading some recent articles conceptualizing the disorder.

Other Programs

Some states have recognized the problem of pharmacist impairment. Notably, Georgia and Texas have active programs that provide education, intervention, and after treatment monitoring of impaired

(Continued on page 8)

Conspiracy of Silence

pharmacists. Their programs have been developed as the result of a perceived need.

The Texas Pharmaceutical Association developed the program "Pharmacists Helping Pharmacists." From May 1983 to August 10, 1984, they had worked with fifty impaired pharmacists in an advocacy relationship. The pharmacists came to the program through self-referral, colleagues, and other health professionals, with a few coming through other methods. Out of this group, 28 involved drugs, 16 involved alcohol or alcohol and drugs, while only 6 represented psychiatric or organic disease. These statistics tend to support the figures obtained from the other medical professionals. At last report some 23 of the 50 are progressing satisfactorily. This is very encouraging since the program has only been in existence for 15 months.

The Georgia Pharmaceutical Association established the PHARM-ASSIST program in February, 1982. They have a program of education, intervention, monitoring, as well as a Mayday hotline manned by the association office. In their 30 month existence, they have had 28 cases reported of which they conducted interventions on 22. Progress has been satisfactory in 16 cases.

North Carolina Data

The question remains as to whether there exists a problem with impairment among pharmacists in North Carolina. To address this issue the Committee had at its disposal the assistance of James W. Normark, a pharmacist working on his Masters Degree under the guidance of Fred Eckel at the UNC School of Pharmacy. Mr. Normark researched the N.C. Board of Pharmacy Records, as well as surveyed the pharmacists of North Carolina. In reviewing the data of the Board of Pharmacy, impairment accounted for 26.8% of the disciplinary cases during 1974-78. However, that figure jumped to 42.9% of total cases during 1979-83, accounting for 50% of the cases during 1983. If reviewed as to age, the average age dropped from 42 to 35 for the above mentioned time frames. Additionally, none showed impairment due to alcohol alone, with 88% involving drugs.

Mr. Normark also devised questionnaires to obtain data from both practicing pharmacists and pharmacy students. While the results must be interpreted with care, we feel they must be considered. Mr. Normark will be writing about his results in the future, some of which will be supplied to you. Some of the data is being reviewed in this document.

Surveys were sent to 3,980 pharmacists with 1,370 returned, for a response rate of 34.4%. When asked if they felt alcohol was a problem for N.C. pharmacists, 39.7% of the respondents felt that it was. Interestingly enough, only 35.35% of the respondents felt that drugs were a problem, yet the Board of Pharmacy has not heard a case in over 10 years in which alcohol was the single drug of abuse. Buried in the questionnaire was an abbreviated Michigan Alcoholism Screening Test (MAST). There were 1,289 that responded to this section. Of that group 17.6% scored at a level that was suggestive of alcoholism with 4% scoring at a level which is accepted as diagnostic for alcoholism. When queried as to whether they would like to see a program established for impaired pharmacists, 70.8% responded in affirmation, with 9.5% disagreeing, and 19.7% having no opinion.

The pharmacy students at UNC School of Pharmacy were also surveyed. Eighty six percent of the student body was queried, which represented 391 students. When asked as to whether or not they felt that alcohol was a problem for UNC Pharmacy students, 58.1% of the 5/5 students responded positively. This was considerably less than the response of the 3/5 and 4/5 students. This may mean that they perceive a smaller problem in the pharmacy students when compared to the college environment at large, but since they will soon become North Carolina Pharmacists, the figure is significant. Additionally, only 31.7% responded that they knew how to get help for a fellow impaired student.

Discussion

After looking at the efforts of other states, the literature concerning other health care professionals, and data developed within our own state, it appears that the need for a program exists within our state. The committee has reviewed the literature and met twice to examine the data. The preliminary findings were presented to the clinical meeting of the NCSHP in Raleigh, October 16, 18, 1984. The dilemma felt by the committee is that we now need a clearer mandate from the association as to our future functioning.

A program for impaired pharmacists in North Carolina should involve many components. It would first involve an educational program among the state's pharmacists and their families. It should involve a method of identification which would involve the entire medical community. When identification occurs, a method to substantiate or dispel the complaints should be in place. When substantiated, a

Conspiracy of Silence

method of confrontation by peers must be devised. While we should never be in the diagnostic or treatment business, a method of follow-up and monitoring would be required. A system of complete confidentiality is understood as part of any program unless one's behavior is jeopardizing the patient's health and welfare.

Many unanswered questions remain as we consider the development of such a program. Legal counsel will be required. Consultation with the professional associations and the regulatory agencies would be required during the program development phase. Would the present committee members continue in the role of developing the program? What will be the ultimate cost of such a program? However, on this point we feel that much of the cost can be handled by contributions from industry and foundations.

Conclusion

We have reviewed our activities over the past year. It appears that the need is present. The pharmacists responding to our data collection technique overwhelmingly support the development of such a program. Other states already have programs that are functioning successfully. We have the advantage over other states in that we have the benefit of some excellent data collection.

We have the potential of developing a program that could encompass the pharmaceutical association, the society of hospital pharmacists, as well as the academic setting, a feat that has yet to be accomplished in the states studied.

We now ask for further guidance from the North Carolina Pharmaceutical Association and the North Carolina Society of Hosptial Pharmacists as to our future efforts.

A "WORDY" ASSOCIATION

Below is a "word" description of what an aggressive Association does in its day-to-day activities. When each of us look back over its year's work, I am convinced that there is not a word listed with which we can not identify.

An Association overcomes, coordinates, stimulates, improves, listens, accomplishes, serves, reaches, transforms, moves, pleases, contributes, reinforces, unites, inspires.

Also it awakens, performs, anticipates, accounts, advances, enables, enriches, dreams, organizes, cooperates, enlists, cares, channels, builds, publishes, bridges, initiates, involves, guides, warns, arouses, persists.

And it administers, unifies, produces, reflects, safeguards, zips, welcomes, activates, refers, motivates, accommodates, enkindles, helps, humanizes, congratulates, invigorates.

As well as alerts, informs, encourages, integrates, expedites, complies, heads, progresses, examines, prepares, petitions, enlarges, delivers, responds, shakes, instructs, betters, recruits, consolidates, identifies, renews, answers, acts, voices, cautions.

Plus, it resolves, structures, establishes, does, consults, communicates, produces, hustles, promotes, aids, distributes, changes, recognizes, harmonizes, activates, notifies, attracts, speaks, replies, restores, probes, institutes, nudges, shapes, befriends, supplies, surveys, verifies, visits, sponsors and [whew!] works!

In a word, that's it!

CHARLOTTE WOMAN'S PHARMACEUTICAL AUXILIARY

The Charlotte Woman's Pharmaceutical Auxiliary had a luncheon meeting Tuesday, February 12, 1985 at the Park Road YWCA. Mrs. Douglas Corwin, president presided. Carolyn Leonard, a Mecklenburg County home economist extension agent discussed "The Interaction of Food and Drugs."

Respectfully submitted,
Billie Dagenhart
Corresponding Secretary

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CORRESPONDENCE COURSE
ADVISING CONSUMERS ON THE SELF-MEDICATION OF ACNE

by
J. Richard Wuest, R.Ph., Pharm.D., Professor of Clinical Pharmacy
University of Cincinnati, Cincinnati, Ohio
and
Thomas A. Gossel, R.Ph., Ph.D., Professor of Pharmacology
Ohio Northern University, Ada, Ohio

Goals

The goals of this lesson are to:
1. discuss the etiology and treatment of acne;
2. review the pharmacology and therapeutics of OTC medications used to treat acne.

Objectives

At the completion of this lesson, the successful participant will be able to:
1. choose the appropriate OTC agent for treating acne;
2. explain the proper technique for applying these OTC agents;
3. refer the consumer to a specialist when self-treatment is not appropriate.

Acne is a condition that most of us can relate to because it is so prevalent. While there are several dozen different types of "acne-like" lesions, and nearly all of them are relatively rare, the teenage nemesis *acne vulgaris* occurs in an estimated 80% of Americans as they pass through puberty. It can, however, begin at any age.

For most individuals, *acne vulgaris*, hereafter referred to simply as acne, consists of just a few pimples here and there. For others (estimated at less than 15%), numerous eruptions occur, some of which can result in permanent pock marks. This severe form of the disease is approximately ten times more common in males than in females. The milder forms of acne will clear up as pubertal changes are completed—with or without therapy.

One of the problems with acne is that it occurs at an awkward age, the teenage years. Except for the pock marks seen with the more severe (nodulopustular or cystic) variety, there is really no physical damage involved. However, there are strong psychological and emotional factors that contribute substantially to the youngsters' self-perception of the situation. They are approaching adulthood, while adjusting to new personal, social and sexual relationships. Social acceptability and personal appearance are extremely important at this age. So, most of them are going to seek some type of "treatment" whether or not it is really necessary.

Several surveys have shown that most youngsters will try to treat acne with an OTC medication before seeking the advice of a dermatologist. They will look to their peers and television/radio/magazine ads, and windowship for the latest "cure." Unfortunately, there is no cure for acne short of the prescription drug, isotretinoin (Accutane®), for severe cystic acne unresponsive to antibiotic therapy. If the patient can tolerate the side effects of isotretinoin, results are dramatic.

However, if the goals of therapy are to reduce pimple count and inhibit pustular acne and permanent scarring of the skin, OTC anti-acne medications are very effective. It is an important area for pharmacist involvement because of the counseling involved and because the drug store share of the 150 million dollar annual acne treatment market stands at an estimated 70%.

Types of Acne Lesions

Comedo (comedones) is the most commonly used medical term associated with acne. They are the primary lesions of acne, consisting of keratinous (dead cell) debris, bacteria, sebum, and hair fragments which plug the opening of the pilosebaceous duct. A comedo results from distension of the hair follicle (pore) due to a plug formed at the surface. In the early stages, it is barely noticeable, but as it

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Correspondence Course—Acne

becomes further distended, it results in a closed comedo or "whitehead."

Whiteheads begin as small, firm elevations on the skin which may be difficult to see. As follicles continue to enlarge, the opening to the surface becomes obstructed even more. If the follicular wall ruptures, the lesion will become inflammed and more visible. When the materials within the closed comedo accumulate to a greater extent, they cause the opening in the comedo to dilate, pushing the material to the skin's surface. This marks the beginning of an open comedo or **blackhead.**

The dark material within the blackhead is not dirt; the black coloration is caused by *melanin,* the pigment produced by melanocytes and contained within the keratinous debris. These materials have risen to the skin's surface but the lesion has not ruptured. Neither the closed comedo nor the open comedo is serious in itself. However, in either instance, (more likely with the whitehead than blackhead) they can become inflammed leading to a papule, nodule or pustule.

When comedones become inflammed and red in color, they are called **papules.** This type is more likely to develop from closed comedones and is less serious than nodules and pustules. Papules can either continue development into these two types of lesions, or may resolve spontaneously after several weeks.

The large, reddened, often painful, inflammatory acne lesions that contain pus and can lead to scarring are called **nodules.** They are deep-seated lesions which mainly affect the dermal (inner) layer of the skin. Nodules develop from rupture of closed comedones; if others are close-by, they may fuse to form large lesions. Patients who have a number of these fused nodules are said to have **cystic acne.**

A **pustule** is a raised inflammatory lesion that is filled with pus and develops from papules. Trapped follicular contents gain access to the dermis through the lining of the follicle resulting in inflammation. As the lesion enlarges and pushes toward the surface, it fills with pus. Superficial pustules generally resolve after a few days and rarely cause visible scarring, whereas deep-seated pustules may require several months to resolve. They can cause scarring, especially if they are picked or squeezed.

All of these blemishes are called **pimples** (zits) which, if not widespread and/or deep-seated, are not that bad. They represent nature's method of removing and neutralizing irritating agents so that healing can occur. However, the prolonged or severe inflammation associated with them can lead to the characteristic "ice-pick" scarring. Picking pimples causes trauma which may lead to greater irritation, increased dissemination of the materials into the dermis, and scarring.

What Causes Acne?

The exact cause of acne is unknown, but several factors are definitely implicated. Foremost among them are sebum, androgens, and the bacterium *Propionbacterium acnes,* previously called Corynebacterium.

Sebum is a mixture of triglycerides and oily substances secreted by the sebaceous glands (Figure 1). Normally, sebum moves up the duct common to the hair follicles (pilosebaceous duct) to the skin, where it mixes with existing oils to form a lubricating film. The physiological function of this film is to protect the skin against excessive loss of water, and prevent dry, itchy skin.

The sebaceous glands are generally small and relatively nonfunctional prior to puberty. At this time, under the influence of androgens, the sebaceous cells differentiate and enlarge. They accumulate lipid materials and produce sebum. This, in turn, is acted on by propionbacteria whose lipases hydrolyze triglycerides to diglycerides, monoglycerides and fatty acids. Propionbacteria use the di- and monoglycerides formed for food to reproduce and grow. The fatty acids are considered to be a highly contributory factor to the irritation that occurs with acne lesions.

The propionbacteria are normal inhabitants of the skin. They are nonpathogenic and do not "cause" acne. However, they do contribute to the development of inflammatory acne by breaking down sebum into these irritating chemicals (fatty acids) within plugged pilosebaceous ducts.

Androgens are a third contributory factor to the development of acne. Recall that androgens are the male hormones produced in relatively large amounts within the testes. They are also formed to a lesser extent in the ovaries and the adrenal glands in the female. Androgens serve a major role in bone and muscle development in both sexes. The generally larger size and musculature of the male is due to the greater production of androgens within his body than that in a female.

Androgens also stimulate the growth and development of the sebaceous glands. In patients with acne, there is an increased conversion of testosterone (up to 20 times greater than normal) to dihydrotestosterone (DHT). It is DHT that actually stimulates the cells of the sebaceous glands to increase protein synthesis and accelerate cell division and cell turnover. These sebaceous glands become larger until they surround and completely dominate the hair follicle. Acne usually occurs on the face, upper chest and back because there are more pilosebaceous units there.

Correspondence Course—Acne

Acne does not appear to be merely a function of androgen production. Current evidence leads to the conclusion that acne patients do not suffer from excessive androgen production. Young women with low androgen production can often experience a worse case of acne than young men with higher androgen production. Patients who develop severe acne are thought to have a greater sensitivity to DHT.

Acne is believed to result when DHT-induced increased production of sebum spills over into the pilosebaceous canal and the lipophilic propionbacteria that normally reside there have a heyday. They produce increasing amounts of lipolytic and proteolytic enzymes which result in a high level of fatty acids, which in turn produce irritation to the lining of the canal. If all of the produced material moves up and onto the skin, there is no problem.

If the duct becomes impacted or obstructed, it may lead to the closed comedo (whitehead) or an open comedo (blackhead). Through irritation of the lining of the pilosebaceous duct, these substances can leak out into the dermis. As more and more seep out and irritation increases, they accumulate to form nodules, papules and/or pustules.

Other factors that contribute to acne formation and flareups include the size of the hair/shaft in the duct, humidity, menses, cosmetics, trauma and drugs. For example, thin, small hair strands may be unable to keep the duct open, and hair can trap the plug contributing to comedo formation. On the other hand, facial or scalp hair can push the plug to the surface of the skin and prevent the comedo from forming. Humid weather and heavy sweating will lead to excessive keratin hydration and swelling of the skin tissue. This will decrease the size of the follicular orifice and aggravate acne.

For some unknown reason, the pilosebaceous duct orifice is significantly smaller between days 15 and 20 of the menstrual cycle. This increases the chance of acne lesion formation. Greasy cosmetics such as "cleansing" creams, suntan oils, and heavy makeup bases contribute to the clogging of the canal and are best avoided. Trauma from pressure, friction, squeezing and rubbing (including that from tight clothing) can increase acne lesion formation. Several drugs, including bromides, corticosteroids, isoniazid, iodides, phenytoin, progestins, and exogenously administered androgens have all been implicated in causing acne-like eruptions.

Diet

Diet is one of the more controversial areas in the management of acne. Some feel that diet is very important, and claim that at least three types of foods should be avoided. These include cream, seafood and methylxanthines (e.g., caffeine-containing soda pop and chocolate). They reason that the fatty content of cream is too high for acne patients. The suggestion is made that youngsters with acne problems drink skimmed milk, eat sherbet rather than ice cream, consume low-fat cheese, and use margarine rather than butter. Proponents of this view make a strong case against eating seafood (i.e., ocean fish) stating that levels of iodides and bromides in this type of fish are too high. They claim that these agents are secreted in sweat and stimulate the production of sebum and, therefore, advise individuals to eat freshwater fish rather than ocean fish.

Others feel that diet is not really important. There does not appear to be good evidence that food (including "junk food," chocolate, nuts, sweets, fatty foods, or cola drinks) causes or aggravates acne. The FDA Advisory Panel on OTC Topical Drug Products agreed with this view.

When counseling consumers, however, if the patient states that acne flares when he or she eats certain foods, those types should be avoided. A number of physicians feel that deprivation is a major part of the psychological treatment of acne. They feel that depriving the youngster of some types of food is beneficial because "something" is being done.

Acne Therapy

The patient's perception of the severity of the problem is probably the most important guide to acne therapy. The basic goals are to decrease the amount of sebum produced, decrease the bacterial population in the pilosebaceous duct, reduce the amount of fatty acid formation and, of course, remove the keratin plugs at the surface of the pilosebaceous duct. While there is no evidence that any treatment program prevents the onset of acne, it is considered good therapy to reduce the formation of new acne lesions.

As far as the youngster is concerned, the major goal of therapy is to improve his or her cosmetic appearance. It is generally agreed that patient acceptance of therapy is as important as the effectiveness of the OTC acne medications. Consumers generally want therapeutic products that work, but are not too harsh or unpleasant smelling. They like a product that can be easily applied, feels good, and perhaps may even have a lathering property which enhances the sense of feeling clean and leaving the skin soft. Teenagers reportedly most dislike the stinging/itching sensation, the dryness/peeling that results, and the odor produced by anti-acne medications.

(Continued on page 15)

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Correspondence Course—Acne

In reality, these effects are a major part of therapeutic activity. Patients should be encouraged to put up with the unpleasantness for the short period the product will be used. The better they comply with directions, the more likely the condition will be short-lived.

Down through the years, the mainstays of acne therapy have been proper washing of the face, abrasive scrubs and keratolytics. More recently, benzoyl peroxide, tretinoin/isotretinoin and antibiotics have been added. It has been determined that the first four types of therapy mentioned above can be carried out without direct physician intervention. The use of tretinoin, isotretinoin and antibiotics (both topically and systemically) requires medical supervision and, hence, a prescription.

Even though dirt does not play a significant role in acne lesions, facial cleanliness is a must. Washing the face and other acne areas two to three times a day with soap and warm water is important. A washcloth will remove excess sebum and oily materials from around the openings of pilosebaceous ducts. There is no real evidence that "medicated" soaps are better than ordinary soap.

The thorough, gentle, and continual rubbing of the skin will produce a mild redness and a drying effect. The use of a washcloth will lead to barely visible peeling which will loosen the comedones. In fact, the washcloth may be more important than the soap. Whenever it is inconvenient for the person to wash with soap, one of the cleansing-pad products (e.g., Stri-Dex) can be used instead. Frequent shampooing is also helpful since it reduces the amount of sebum coming down from the scalp area.

There is some controversy associated with the use of **abrasive scrubs.** Current evidence points to the fact that their use may be more psychological than therapeutic. It has not been conclusively proven that the use of abrasive scrubs either significantly reduces the number of new comedones, or removes that that are already formed. Acne is not a disease that forms on the surface. It forms beneath the surface of the pilosebaceous duct. Therefore, comedones cannot be physically washed out. If overused, abrasive scrubs may cause irritation, and occasionally actually aggravate the acne condition. Complexion brushes are also felt to cause more harm than good.

Nonetheless, abrasives are very popular with patients. It may be because the patients believe that conscientious scrubbing will clean clogged pores, and that they are playing a major role in improving their condition. It has also been noted that some individuals have stopped picking their pimples when advised to use abrasive scrubs because the routine apparently replaced their emotional need to scrutinize and express each lesion.

Advising consumers on the use of abrasive scrubs is a matter of professional judgement. There is a lack of evidence that abrasive scrubs either alleviate or prevent the formation of acne lesions. The OTC Advisory Panel on Topical Acne Drug Products has recommended to FDA that no such claims be allowed by their manufacturers.

Keratolytics (i.e., sulfur, resorcinol, and salicylic acid) have been used in acne therapy for years. While their exact mechanism of action is not known, the result is a peeling away of keratin debris (keratolytic action) and removal of dead cells (exfoliative effect). Some authorities state that these agents are effective first-time treatment for promoting removal of comedones. Others argue that they are more cosmetic than therapeutic, and may do more harm than good. The FDA advisory panel determined that sulfur is definitely a safe and effective anti-acne remedy. However, resorcinol and salicylic acid have not yet been conclusively proven to be safe and effective as single entity anti-acne agents.

Sulfur, used medicinally for centuries, has shown the most evidence of effectiveness as a keratolytic agent. Its exact mechanism is not known, but the predominant theory is that it helps to peel away and remove keratin debris by being converted into hydrogen sulfide when it comes into contact with skin tissue. The FDA advisory panel has ruled that sulfur, in concentrations of 3 to 10 percent, is safe and effective for treatment and prevention of acne.

Even though **resorcinol** has anti-bacterial, antifungal and mild keratolytic activity, the panel ruled that there is a lack of evidence to prove that the substance used by itself is effective in treating acne. Actually, such use in the treatment of naturally occurring (i.e., non-laboratory-induced) acne has never been studied. The panel did conclude that the combination of sulfur (8 percent) with resorcinol (2 percent) is safe and effective for use in the treatment of acne. Resorcinol enhances the activity of sulfur, so this combination is rational. The panel strongly recommended that OTC's be labeled to warn consumers not to use the combination on broken skin, or to apply it on large areas of the body.

Salicylic acid has been used for over a century in treatment of acne and other diseases amenable to keratolytic agents. It is considered by some to be the best of all available agents, but it has never been studied as a single agent in the treatment of acne. Salicylic acid is thought to be both anti-inflammatory and comedolytic, and it increases the turnover and

(Continued on page 16)

Correspondence Course – Acne

decreases the cohesiveness of keratin cells. Therefore, salicylic acid was placed in the "needs more study" category. The panel recommended that at least one double-blind vehicle-controlled clinical trial be undertaken to determine its effectiveness in the treatment of acne. The recommended strengths for salicylic acid range from 0.5 to 5 percent.

Proponents of salicylic acid claim that a solution of it in alcohol is the best available keratolytic. This is because the alcohol will dry and leave no film, and the salicylic acid does not have the odor associated with sulfur.

Other keratolytic combinations for which the FDA panel had inadequate data to make definite statements of effectiveness are listed in Table 1. When any keratolytic is being used, the consumer must realize that the affected area should be thoroughly washed before the agent is applied. Otherwise its effectiveness will be compromised.

TABLE 1

Combination Anti-Acne Agents Ruled* To Need Further Study

Alcloxa – resorcinol – salicylic acid
Alcloxa – resorcinol – sulfur
Aluminum chlorhydrex – sulfur
Benzoic acid – boric acid – zinc oxide – zinc stearate
Calcium polysulfide – calcium thiosulfate
Resorcinol – salicylic acid
Resorcinol – salicylic acid – sodium thiosulfate
Resorcinol – sulfur – thymol – zinc oxide
Salicylic acid – sulfur

**by the FDA Advisory Panel on OTC Topical Acne Remedies*

Benzoyl peroxide, in a 2.5 to 10 percent gel formulation, is considered by many experts to be the best of all anti-acne remedies available. It is both keratolytic and antibacterial. Benzoyl peroxide is decomposed by cysteine, an amino acid on the skin, to benzoic acid which has mild keratolytic activity, and oxygen which accounts for the exfoliative and antibacterial activities. The oxygen kills bacteria it comes in contact with and causes a peeling of the outer layer of the skin. Thus, benzoyl peroxide significantly reduces the number of skin bacteria and the amount of fatty acid on the skin where it is applied. It is also comedolytic in that it increases the epithelial cell growth rate leading to an increased sloughing, which weakens the structure of the plugs within the follicles. It also may have an astringent activity which would help draw the oil out of the pores. Benzoyl peroxide is an excellent agent to suggest for the initial treatment of mild acne and is considered to be the agent of choice in the treatment of mild inflammatory acne.

Consumers purchasing benzoyl peroxide should be aware that the product will cause a slight tingling sensation and a feeling of warmth and redness. These actions are a part of its therapeutic activity. It should be applied to the point that mild redness and dryness are noted, but not to the point of discomfort. Benzoyl peroxide should be applied at bedtime to the entire involved area, not just to the zits. This will help prevent new pimples from forming. It is wise to start with a 2.5 percent product and then increase to 5 and then 10 percent, if needed, with twice a day applications as tolerated. It must be remembered that approximately three percent of users are hypersensitive to the product. Consumers should be advised of this in advance. They should also be informed that the substance is an oxidizing (bleaching) agent so it should be kept away from clothing.

It is of some interest to note that even though benzoyl peroxide and sulfur are available OTC, their combination product is available on a prescription-only basis. FDA is convinced that even though the combination is effective, it is not safe for self-medication. There is is considerable evidence that sulfur enhances the sensitization potential of benzoyl peroxide to the point that medical supervision is required. The OTC advisory panel concurred with this concept, and did not recommend that the combination be shifted to OTC status.

Ineffective/Unsafe Agents

A number of anti-acne agents were found by the panel to be either unsafe, ineffective, or neither safe nor effective. These include the aluminum salts, boric acid, coal tar, estrogens, and the zinc salts. Table 2 contains a list of ingredients suggested for the "banned from future use" category.

Aluminum salts so ruled are alcloxa, aluminum chlorhydrex, aluminum hydroxide, and magnesium aluminum silicate. **Alcloxa** is purported to have both soothing and healing properties. When applied to the skin, it is reported to disassociate into its two components – aluminum chloride and allantoin. Alcloxa has been used for decades for the treatment of a wide variety of skin problems including eczema, acne, athlete's foot, diaper rash, impetigo, itching, psoriasis, and sunburn. However, the panel could not find any clinical studies which established the effectiveness of this combination in treating acne. Nor could it find any evidence that the aluminum salts, through

their astringent activity, effectively treat acne.

Boric acid has been considered to be both antibacterial and antifungal. Although the panel concluded that it and the borate salts were safe for use on unbroken skin in concentrations less than five percent, it could find no evidence to prove their effectiveness in the treatment of acne. While sodium borate may act as a mild physical abrasive for removing superficial pustules, there is inconclusive evidence that it effectively removes the primary lesions of acne (i.e., blackheads and whiteheads) because these are deeply rooted in the follicles.

Coal tar was placed in this category because there are no clinical studies supporting its effectiveness for the treatment of acne. In fact, it has been found to actually *cause* acne in some human volunteers and in workers exposed to it in their occupations. Also, there has been considerable data accumulated demonstrating a carcinogenic potential following long-term exposure to crude coal tar preparations. It is of some interest to note that this has been the general finding of every OTC panel which has reviewed coal tar preparations.

TABLE 2
Agents Ruled* To Be Unsafe/Ineffective For OTC Topical Treatment Of Acne

Not Effective — Questionable Safety
Phenyl salicylate
Thymol
Vitamin E
Not Safe — Questionable Efficacy
Dibenzothiophene
Phenol/Sodium phenolate
Safe — Not Effective
Alkyl Isoquinolinium
Aluminum salts
Benzoic acid
Boric acid
Camphor
Chlorhydroxyquinoline
Chloroxylenol
Magnesium sulfate
Resorcinol
Sodium thiosulfate
Zinc salts
Neither Safe nor Effective
Benzocaine
Coal tar
Estrogens
Tetracaine

**by the FDA Advisory Panel on OTC Topical Acne Remedies*

Estrogens need to be considered from several different viewpoints. In physiological amounts, they do not exert a significant role in sebaceous gland activity. However, in pharmacological doses, estrogens cause an anti-androgen effect by reducing circulating androgens, and may actually block DHT receptor sites in the sebaceous glands. Estrogens inhibit adrenal gland androgen production in females, and may be useful in severe or otherwise unresponsive cases in young women. In regards to OTC use, topical estrogens are readily absorbed through the skin and can cause systemic effects.

It was the panel's feeling that estrogen-containing compounds should not be available for OTC use in the treatment of acne. It concluded that although most studies reported favorable results, very high concentrations must be applied topically for sufficient amounts to be absorbed systemically to produce an anti-acne effect. This requires medical supervision. Therefore, the panel stated that doses of estrogenic agents safe for self-medication are too low to be effective for OTC topical use in the treatment of acne.

Zinc salts were reviewed by the panel in topical and oral dosage forms. Topically, zinc oxide, zinc stearate and zinc sulfide have been used as astringents, protectants and antiseptics for many years. White lotion (containing zinc sulfate, sulfurated potash and water) is still prescribed for treatment of mild acne. The panel concluded that any beneficial effect of white lotion on the dermatological condition resulted primarily from the sulfur content of the lotion, and that none of the few available studies attributed therapeutic activity to the zinc salt content. It therefore placed topical zinc salts in the ineffective category.

Although the panel's mission was only to review the use of topical agents used in the treatment of acne, it did comment that there is some concern about the unexplained wide variation in the results of double blind studies on the use of *oral* zinc salts that have been conducted in different countries. In Sweden, investigators believe that zinc is valuable in the treatment of acne. Investigators in Denmark and the United States remain unconvinced of its efficacy. The contrasting results among studies from various countries suggested to the panel that environmental factors such as seasonal variations and ultraviolet light exposure, the amount of zinc in the natural diet, and the dosage form used may have influenced the studies. Swedish investigators, for example, used an effervescent zinc sulfate complex that is not available in the U.S.

In this country, the use of oral zinc remains controversial, although it is the current "darling" of the mineral promoters. Some investigators claim beneficial results from 200 mg of zinc given twice a day.

(Continued on page 19)

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TABLE 3

Label Warnings For OTC Anti-Acne Agents

1) For All Products:

- For external use only: Other topical acne medications should not be used at the same time as this medication

2) For Benzoyl Peroxide Products:

- Do not use this medication if you have very sensitive skin or if you are sensitive to benzoyl peroxide. This product may cause irritation characterized by redness, burning, itching, peeling or possible sweeling.
- More frequent use or higher concentrations may aggravate such irritation. Mild irritation may be reduced by using the product less frequently or in lower concentration.
- If irritation becomes severe, discontinue use. If irritation still continues, consult a doctor or pharmacist.
- Keep away from eyes, lips, mouth and sensitive areas of the neck.
- This product may bleach hair or dyed fabrics.

3) For Sulfur-Containing Products:

- Do not get into eyes. If excessive skin irritation develops or increases, discontinue use and consult a doctor or pharmacist.

The more conservative view is that oral zinc is ineffective and should not be used unless the patient is known to be zinc deficient.

Anti-Acne Agents of Questionable Efficacy

The panel felt that more studies are needed before a final ruling can be made on the effectiveness of three anti-acne medications: povidone-iodine (e.g., Betadine), calcium polysulfide-calcium thiosulfate (Vleminckx's solution) and sulfur-aluminum chlorohydrex.

The panel felt **povidone iodine** may be an effective acne treatment, but the studies presented contained flaws, one of which was the lack of vehicle control. It could not be determined whether the vehicle itself contributed to its action. Also, other drugs were used at the same time and the method of evaluating patients for results was not well defined. The panel recommended that at least one additional clinical trial be conducted to determine the effectiveness of this agent in the treatment of acne.

Vleminckx's Solution (also known as sulfurated lime) has been used in dermatology for over a century. It is recommended for severe pustular or cystic acne. The FDA panel reviewed the study on the use of the recently devised method of administering sulfurated lime, i.e., the medicated face mask that is applied to the acne area. It showed that although the face mask containing the medication was more effective than the nonmedicated mask in reducing comedones, it was no more effective than the non-medicated mask on papules and pustules. The panel concluded that a truly effective anti-acne medication should be shown to have therapeutic activity against all types of acne lesions.

The panel reached much the same conclusion with **sulfur-aluminum chlorhydrex,** but for the opposite reason. Evidence was submitted to show that this combination was significantly more effective on papules and pustules, but it did not have a statistically significant effect on whiteheads and blackheads. In both instances, the panel suggested that further studies be conducted to prove that they are effective against all types of acne lesions before they can be fully approved as being safe and effective.

The panel also recommended that some warnings be required on the labeling of OTC acne remedies. They are listed in Table 3.

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STUDENT APhA AWARD PRESENTED TO NORTH CAROLINA CHAPTER

The Focus on Pharmacy Award was presented to the University of North Carolina at the Student APhA Awards Luncheon on Monday, February 18, 1985, in honor of this Chapter's demonstrated awareness of Association policy. The award also honors the Chapter's successful efforts toward promoting professional activity between Student APhA members and their surrounding community. Beginning last year with "A Focus on Public Opinion," the Focus on Pharmacy Award is now in its second year, with the year's theme titled "Focus on the Elderly."

In addition to receiving a commemorative plaque, the Chapter's name is placed on a trophy kept at APhA headquarters in Washington, D.C. The University of North Carolina's "Focus on the Elderly" programs centered on four perspectives: (1) The pharmacist and the importance of their role in the care of the geriatric population, (2) communication through the "Vial of Life" program, (3) the elderly in a long-term care facility, and (4) public awareness of the elderly population.

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THE GUILFORD COUNTY SOCIETY OF PHARMACISTS

The regular monthly meeting of the Guilford County Society of Pharmacists was held Sunday evening, February 10th, 1985, at the University Inn in Greensboro. Following the social hour and dinner, the membership heard a very interesting program presented by four Greensboro Physician's Assistants. The PA's each spoke on their role in their particular practice setting, what they do to assist their physicians, and what their prescribing responsibilities are. Each also discussed their background and training, and why they chose to become PA's.

Following the program, the new officers for 1985 were installed. They are:

Tim Rice ..... President
Donna Mosely ..... Vice President (Program Chairman)
Frank Burton ..... Secretary/Treasurer

Outgoing President Marilyn McConnell was applauded for a job well done, then President Rice conducted a short business meeting. It was announced that David Work, Secretary of the N.C. Board of Pharmacy would be our March speaker. The membership also voted to have a June meeting this year. The Secretary reported a record number of paid up members for this early in the year with more dues checks coming in almost daily. There was also a lively discussion of the proposed school of pharmacy at Campbell University. There being no further business, the meeting was then adjourned.

J. Frank Burton
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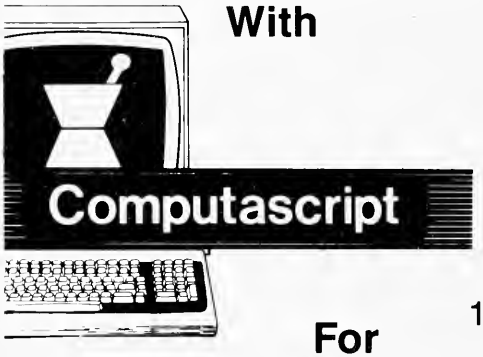

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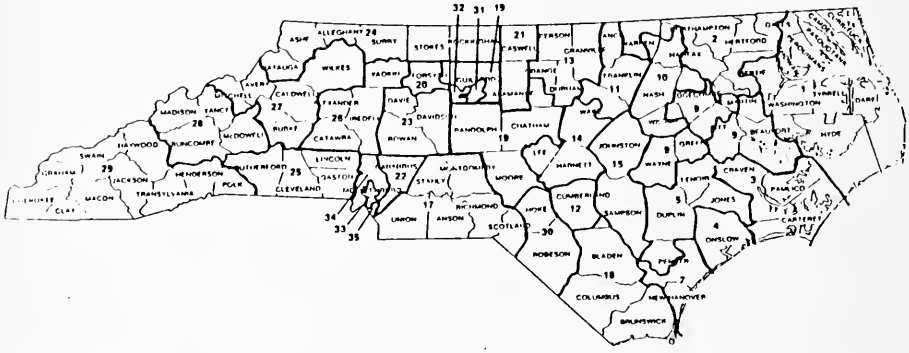

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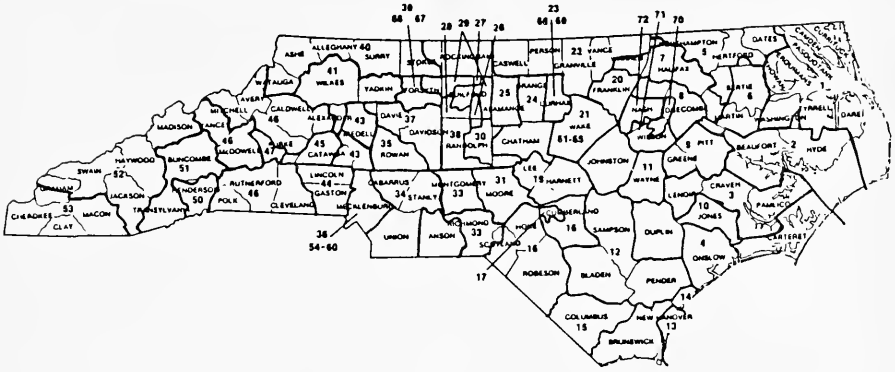

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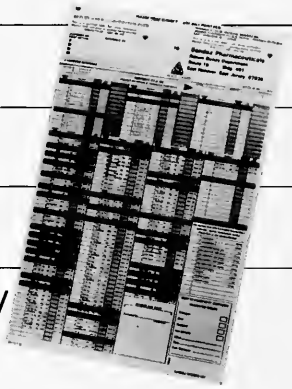

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All *Carolina Journal of Pharmacy* readers are invited to submit articles and letters to be published. Articles should be of general interest, double spaced and typed. Letters to the editor may refer to previously published articles in the *Journal,* Association activities, legislation or any topic of interest to the author. Letters should be limited to 300 words (exceptions may be granted) and should include the writer's name and telephone number. Letters must be signed, although names can be omitted on request. Letters will be published as space permits, but every effort will be made to publish promptly. Address all communications to Editor, *Carolina Journal of Pharmacy, P. O. Box 151, Chapel Hill, NC 27514.*

LOCAL NEWS

NORTH CAROLINA PHARMACY LEADERS IN ORIGINAL MEETING

A meeting conducted on a February weekend could be a big step forward toward dealing with contemporary issues of mutual interest to all segments of pharmacy practice at the State level. The meeting, held February 8-10th at Mid Pines in Southern Pines, N.C. enabled 25 Tarheel pharmacy leaders representing the University of North Carolina School of Pharmacy, the North Carolina Pharmaceutical Association, the North Carolina Society of Hospital Pharmacists, Chain Drug Store representatives and members of the Board of Pharmacy to sit down in one room for an extended discussion on important issues. This is thought to be the first time a group with such broad representation has assembled at the State level.

With the title of Pharmacy Leaders Forum, the group addressed legislation in the General Assembly, continuing education in light of the Board's recent C.E. requirements, potential Board regulations and even the recently announced Pharmacy School at Campbell University. The North Carolina Board of Pharmacy provided the impetus for the meeting and the Board's President, William H. Randall, Jr., said "We felt there needed to be better communication between all aspects of the profession. If we can get a better understanding of each other's problems, everybody will benefit." Gilbert Hartis, a Revco Vice-President, said that the meeting "definitely opened lines of communication and a chance to talk with people face to face with the overall emphasis on pharmacy. It helps a lot to see people on a social basis, too, rather than just representing a certain fixed position."

"We made good progress in helping our practitioner colleagues understand the limitations of a State University they didn't know before the meeting" said Tom Miya, Dean of the UNC School of Pharmacy. "This kind of meeting should have occurred years ago."

At the conclusion of the weekend the group set priorities for all to pursue both in legislation and clarification of some continuing education issues. Other matters such as an impaired pharmacist program and prescription transfer regulations had less urgency and could be more effectively addressed in the long term.

GUILFORD COUNTY SOCIETY OF PHARMACISTS

The March meeting of the Guilford County Society of Pharmacists was held Sunday, March 10, at the University Inn in Greensboro. After a social hour and dinner, David R. Work, Executive Director of the North Carolina Board of Pharmacy spoke on the laws of Pharmacy and the Continuing Education requirements. A large enthusiastic audience had many questions about CE and the approval process.

J. Frank Burton
Sec/Treas

CHARLOTTE WOMAN'S PHARMACEUTICAL AUXILIARY

The Charlotte Woman's Pharmaceutical Auxiliary celebrated a "Fun Day in the Country" Tuesday, March 12, 1985 at the home of Mrs. Leslie Davis. Members arrived on the WBT Fun Bus.

Hostesses for the Fun Day were Mrs. Davis, Mrs. Douglas Corwin, and Mrs. Jesse Oxendine. Mrs. Michael Dente sang and played a medley of folk music on the autoharp.

Special guest was the state president Keith Fearing of Manteo. She discussed the plans for the state convention to be held in Raleigh April 10 through 12 and the members Caribbean Cruise April 13 through 20.

Respectfully submitted,
Billie Dagenhart
Corresponding Secretary

NORTHEASTERN CAROLINA PHARMACEUTICAL SOCIETY

The first meeting of the year was held by the Northeastern Pharmaceutical Society at Cobb's Corner Restaurant in Williamston on Wednesday, February 13th. The new officers for 1985 are John Robert Bowers, Bethel, President, Bill Brown of Greenville, Vice President, and Dean Bryan of Tarboro, Secretary and Treasurer.

44 members were present and enjoyed a program given by Dr. Gay Israel, Director of the Human Performance Laboratory at East Carolina University.

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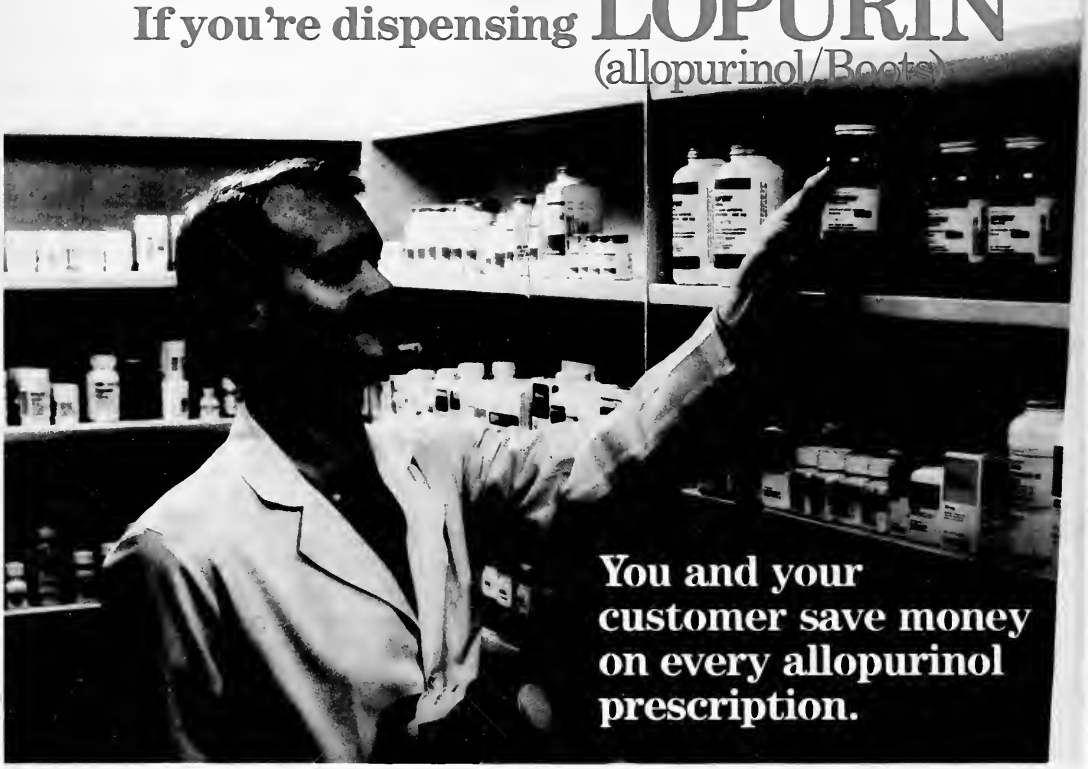

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CORRESPONDENCE QUIZ COURSE

Acne

1. The primary lesion of acne which forms first and then leads to the other types of lesions is called a(n):
   a. nodule
   b. papule
   c. closed comedo
   d. open comedo

2. Acne occurs on the face, upper chest and back to a greater extent than other areas of the body because the former areas:
   a. are more oily
   b. are more highly exposed to ultraviolet light
   c. contain more pilosebaceous units
   d. have more pathogenic bacteria present

3. The FDA panel that reviewed OTC acne remedies found the greatest proof of effectiveness for which of the following keratolytics when used as a single entity?
   a. resorcinol
   b. salicylic acid
   c. sulfur
   d. boric acid

4. The same panel found which of the following to be *neither* safe *nor* effective for OTC use as an anti-acne agent?
   a. boric acid
   b. coal tar
   c. phenol
   d. zinc salts

5. The panel also found that all of the following drugs in the listed concentration can be considered for future use as OTC keratolytics either alone or in combination with other agents **EXCEPT:**
   a. resorcinol 2%
   b. salicylic acid 5%
   c. sulfur 8%
   d. tretinoin 10%

6. The term "blackhead" is most synonymous with the term:
   a. nodule
   b. papule
   c. closed comedo
   d. open comedo

7. Acne lesions are likely to flare up in each of the following situations **EXCEPT:**
   a. during periods of increased sweating
   b. from days 4-12 of the menstrual cycle when estrogen levels are high
   c. in periods when the relative humidity is very high
   d. when the person insists on picking the zits

8. The agent of choice for treating mild inflammatory acne is:
   a. benzoyl peroxide
   b. isotretinoin
   c. salicylic acid
   d. tetracycline

9. All of the following information is appropriate when advising a consumer on the correct use of benzoyl peroxide-containing products **EXCEPT:**
   a. Only apply the product to the pimples themselves; do not get any on the surrounding area.
   b. Start with a low-strength product and increase the dosage as needed and tolerated.
   c. Be careful that you do not get any on your clothing; it is an oxidizing agent and can take the color out.
   d. The ideal time to apply the product is at bedtime; apply it to the point that mild redness and dryness occurs.

10. A prescription for Vleminckx's solution would be correctly filled by dispensing:
    a. aluminum acetate
    b. magnesium sulfate
    c. sulfurated lime
    d. white lotion

11. Which of the following has the **LEAST** evidence to prove it is a factor in the development of acne?
    a. androgens
    b. diet
    c. propionbacteria
    d. sebum

12. Which of the following combinations has shown the greatest evidence of safety and effectiveness for use as an OTC acne remedy?
    a. alcloxa - salicylic acid
    b. calcium polysulfide - calcium thiosulfate
    c. resorcinol - sulfur
    d. sulfur - zinc oxide

13. An acne lesion that is red, painful, inflammed and contains pus is best referred to as a:
    a. nodule
    b. papule
    c. closed comedo
    d. open comedo

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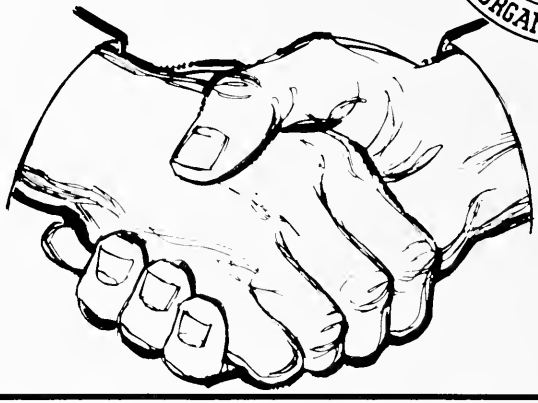

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14. Which of the following has shown the **LEAST** evidence of effectiveness in the treatment of acne?
    a. frequent shampooing
    b. abrasive scrubs
    c. removing excess sebum
    d. using a washcloth
15. The dark material that colors a "blackhead" black is:
    a. dirt
    b. bacterial debris
    c. melanin
    d. trapped oils

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This Continuing Education series is a member service of the NCPhA and is available to members at no charge. Please circle the correct answers and send to CE Test, P. O. Box 151, Chapel Hill, NC 27514. A grade of 90% is required for CE credit. You will be notified if your test score is not satisfactory, and may resubmit your test within 30 days of notification. This test is accredited for ONE (1) hour of Pharmacy Continuing Education.

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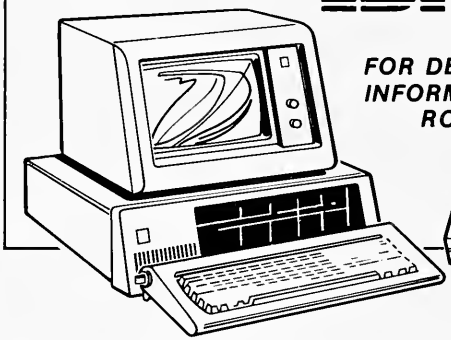

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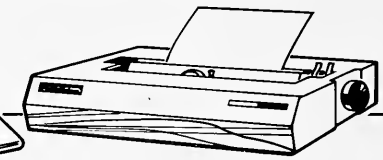

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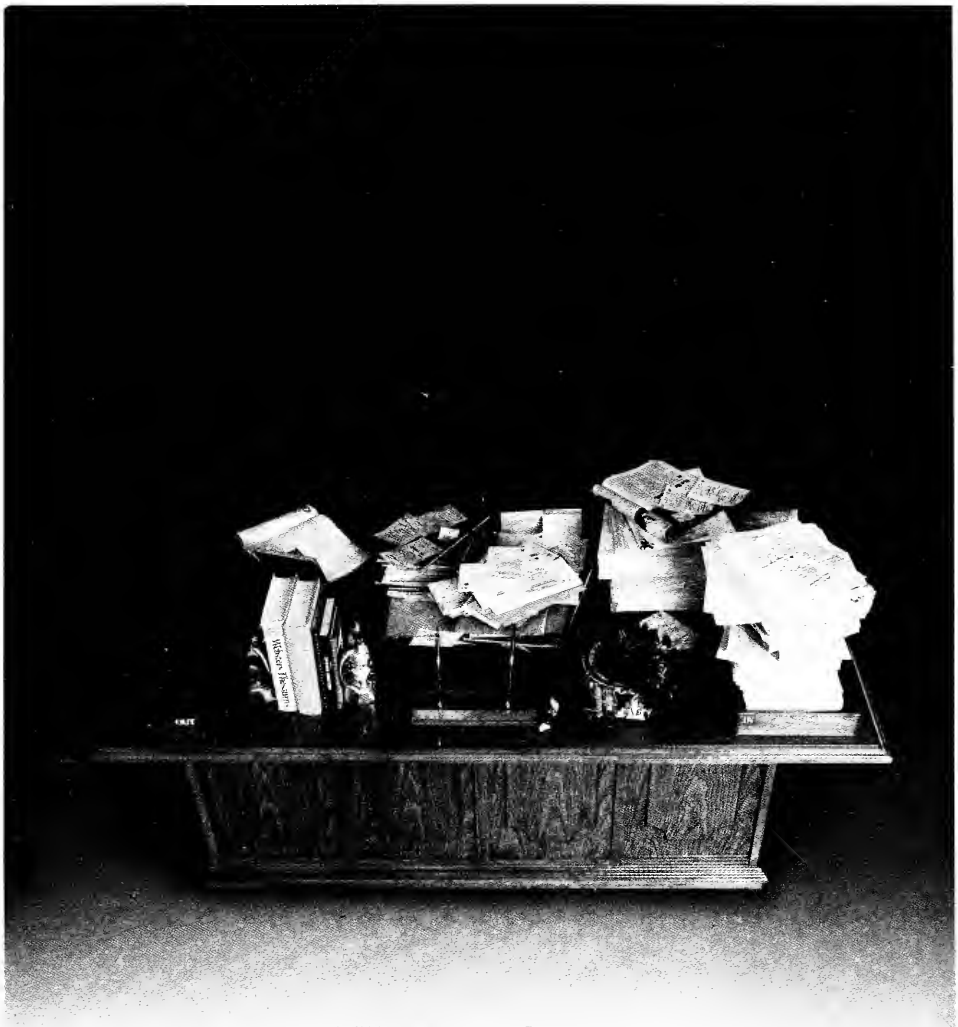

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CONSTITUTION AND BYLAWS OF THE NORTH CAROLINA PHARMACEUTICAL ASSOCIATION

CONSTITUTION

Article I - Name

This Association shall be called "The North Carolina Pharmaceutical Association" with an office at the Institute of Pharmacy, Chapel Hill, N.C. 27514.

Article II - Purpose and Objectives

Section 1. Purpose: The purpose of this Association shall be to protect the public health and welfare by uniting North Carolina pharmacists for the advancement of their profession.

Section 2. Objectives: The objectives of this Association shall be:

(1) To improve the science and art of pharmacy and to elevate its standards.

(2) To promote the safe, effective, and rational use of medications, therapeutic agents and medical devices issued or dispensed by pharmacists for the prevention of illness, treatment of a medical condition or maintenance of health.

(3) To encourage and promote the research and study of problems related to the practice of pharmacy.

(4) To interest competent individuals in the practice of pharmacy as a career.

(5) To promote pharmaceutical education and professional growth as a means of providing the greatest protection for the public at large.

(6) To encourage the study of pharmacy through scholarships.

(7) To provide services to members of the Association.

(8) To secure and distribute to members of the Association information relevant to the practice of pharmacy.

(9) To adopt and enforce a Code of Professional Ethics that will assure the public of high standards of professional practice.

(10) To assist members of the Association in achieving economic, educational, governmental, and professional goals.

(11) To promote and encourage goodwill and respect between pharmacists and other health professionals.

Article III - Code of Professional Ethics

Section 1. Code of Professional Ethics: The Association shall adopt a Code of Professional Ethics, the purpose of which is to elevate the standards of the professional practice of pharmacy and serve as a guide for the conduct and application of professional judgment by pharmacy practitioners. All applicants for active membership shall subscribe to the Association's Code of Professional Ethics and continue to do so upon renewal of membership.

Section 2. Ethics, Grievance and Practice Committee: The Ethics, Grievance and Practice Committee is the judicial division of the Association and shall be composed of five members appointed annually by the President. It shall be the primary responsibility of the Ethics, Grievance and Practice Committee to develop written criteria for membership and interpret and enforce the Association's Code of Professional Ethics according to the provisions of the Bylaws and procedures duly adopted by the Committee. The Committee shall also serve to advance the practice standards of the profession of pharmacy.

Section 3. Procedures, Penalties and Appeal: An active member may be reprimanded, suspended or expelled from membership for violation of the obligations of the Code of Professional Ethics. An active member against whom a complaint for violation of the Code of Professional Ethics has been received shall be provided written notice of the charges and an opportunity for a judicial review or hearing by the Ethics, Grievance and Practice Committee according to established due process procedures. All decisions of the Ethics, Grievance and Practice Committee shall be final unless appealed to the Executive Committee within sixty (60) days from the date on which the member received notification of the decision by the Ethics, Grievance and Practice Committee. The majority decision of the Executive Committee of cases on appeal shall be final and binding.

Article IV - Membership

This Association shall consist of Active, Life, Student, and Honorary Members.

(Continued on page 6)

Constitution

Section 1. Active Members: An active member is a pharmacist licensed to practice pharmacy under the pharmacy laws of this state or a graduate of an accredited School of Pharmacy who has paid the annual dues and satisfies written criteria developed by the Ethics, Grievance and Practice Committee.

Section 2. Life Members: A life member is an active member who has paid ten times the amount of the annual dues or who has been voted into Life Membership by the Executive Committee.

Section 3. Student Members: A student enrolled in a School of Pharmacy within this state is eligible for membership as a student member of the North Carolina Pharmaceutical Association at the annual membership fee established by the Executive Committee of this Association. A student member is not eligible to vote or hold office in the Association, but is entitled to all other rights of membership.

CONSTITUTION AND BYLAWS OF THE NORTH CAROLINA PHARMACEUTICAL ASSOCIATION

BYLAWS

Article I - Election of Officers

Section 1. A Nominating Committee of seven members shall be annually chosen by the President and charged with the duty of selecting candidates for the offices of first, second, and third vice-presidents, and three members-at-large of the Executive Committee of the North Carolina Pharmaceutical Association; and four Directors of the Pharmacy Foundation of North Carolina, Incorporated.

Section 2. The Nominating Committee shall submit at the last session of each annual meeting for approval a slate of two or more candidates together with written biographical sketches for each of the offices of First Vice-President (President-Elect), Second Vice-President, Third Vice-President; six members for three places as members-at-large of the Executive Committee; and eight or more members as candidates for four directorships of the Pharmacy Foundation of North Carolina, Incorporated. Additional nominations with written biographical sketches can be made from the floor.

Section 3. The candidates so nominated shall be residents of North Carolina and their names shall be mailed within one month by the Executive Director to every member of the Association, together with the request that the members indicate their preference on a ballot enclosed for that purpose, and return the same by mail within one month.

The ballots received as indicated in the preceding paragraph are to be sent to an "Election Committee" in care of the Executive Director, Chapel Hill. The Election Committee shall consist of four members selected by the Executive Committee of the North Carolina Pharmaceutical Association for a term of three years. The Election Committee shall count as votes in the annual election only those ballots received from members whose dues have been paid for the current year. The Election Committee shall certify to the Executive Director the results of the tally after which the latter shall be published.

The Executive Director shall notify all candidates of the time and place of the meeting of the Election Committee and extend a written invitation to attend the counting of the ballots.

Section 4. The officers thus elected by a plurality of the votes shall be installed at the final session of the next annual meeting.

Section 5. Elected officers must be residents of North Carolina while serving their terms of office. This section shall not apply to officers elected but not installed for the 1985-1986 Association year.

Article II - Duties of Officers

Section 1. THE PRESIDENT

The President shall:

(1) Preside at all meetings of the Association;
(2) Enforce the Constitution and ByLaws and parliamentary procedures in accordance with Robert's Revised Rules of Order;
(3) Appoint all committees not otherwise provided for or ordered by the Association;
(4) Be an ex-officio member of all committees and delegations;
(5) Fill by appointment all committee and office vacancies brought about by death or inability to serve except as otherwise provided in the Bylaws;
(6) Be Chairman of the Executive Committee;
(7) Call special meetings at the written request of ten percent of the active members;

(8) Present a report on the affairs of the Association at each annual meeting:
(9) Appoint a parliamentarian to serve at the annual or special meetings of the Association;
(10) Perform such duties as pertains to this office.

Section 2. THE VICE-PRESIDENTS

(1) The Association shall have three Vice-Presidents. The First Vice-President shall be the President-Elect of the Association and in the absence of the President, shall perform the duties of that office. If the office of President shall be vacated for any reason, the First Vice-President shall become the President of the Association for the unexpired term of the elected President and shall continue to serve a regular term as President.

(2) In the absence of the President, the First, Second, or Third Vice-President, in that order, shall preside at meetings of the Association and of the Executive Committee.

(3) The offices of the President-Elect, Second, and Third Vice-Presidents are filled by written ballot. In the event that these offices are vacated for any reason, such offices may be filled only by special election.

Section 3. THE EXECUTIVE DIRECTOR.

The Executive Director shall:

(1) Serve as Secretary-Treasurer of the Association;
(2) Keep and maintain all records of the Association, including proceedings and all membership records;
(3) Collect monies due to the Association and shall deposit monies in such depositories as the Executive Committee shall designate;
(4) Conduct the official correspondence of the Association and notify each member by mail of the meetings;
(5) Make disbursements as directed or outlined by the Executive Committee;
(6) Preserve all papers and archives of the Association;
(7) Edit and distribute the official publication of the Association, the Carolina Journal of Pharmacy;
(8) Act as secretary to all committees of the Association;
(9) Have the authority to employ the appropriate individuals to aid in conducting the affairs of the Association;
(10) Discharge such other duties as the Executive Committee shall assign or designate.

The Executive Director shall be bonded in an amount required by law and approved by the Executive Committee, said bond to be paid by the Association. His performance and compensation shall be reviewed annually by the Executive Committee. A certified public accountant shall be engaged to audit the financial accounts of the Association and report to the Executive Committee.

Article III - Committees

Section 1. Standing Committees: There shall be five (5) committees of the Association:
(A) Executive Committee
(B) Legislative Committee
(C) Nominating Committee
(D) Resolutions Committee
(E) Ethics, Grievance and Practice Committee

Section 2. Composition and Responsibilities: The composition and responsibilities of the standing committees shall be as follows:

(A) Executive Committee - The Executive Committee shall consist of the President, First Vice-President, Second Vice-President, Third Vice-President, Executive Director, three (3) Immediate Past Presidents, each serving a three-year term, and three (3) members-at-large elected annually.

The duties of the Executive Committee shall be as follows:

1. Take into consideration and act upon all matters of business between annual meetings.
2. Approve bonds sufficient to meet all legal requirements of the organization.
3. Select depositories in which funds and securities of the Association are deposited.
4. Direct the investment of funds of the Association.
5. Contract for and make necessary arrangements for editing and publishing the Carolina Journal of Pharmacy and other publications as the Association may direct.
6. Employ the Executive Director and annually review performance and compensation.
7. Act on appeals from members emanating from decisions of the Ethics, Grievance and Practice Committee wherein sanctions are imposed for violation of the Code of Professional Ethics of the Association.
8. Have general charge and final authority

(Continued on page 9)

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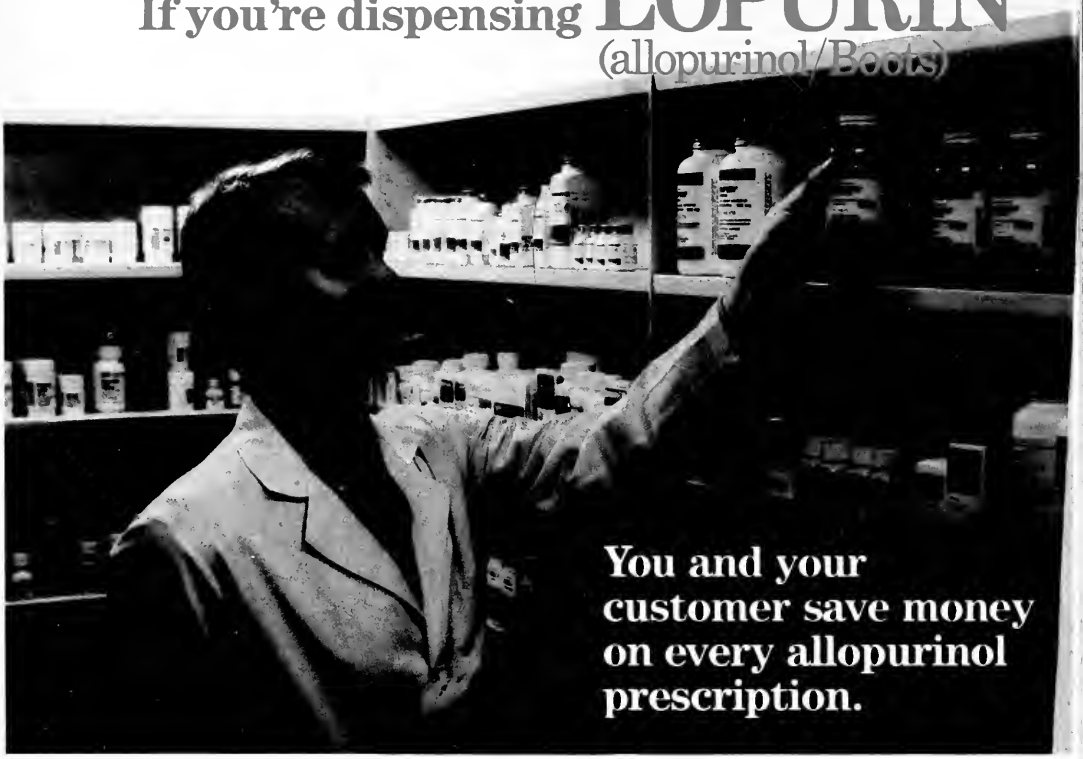

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Constitution

over all affairs of the Association which are not specifically provided in the Bylaws.

9. Perform other functions necessary for the efficient operation of the Association.

(B) Legislative Committee - The Legislative Committee shall consist of seven (7) members appointed by the President. Non-voting advisory members may be appointed by the President as deemed necessary.

The duties of the Legislative Committee shall be as follows:

1. Use its efforts in sponsoring the passage of such legislation as the Association may specifically recommend.
2. Oppose such legislation as the Association resolves to oppose.
3. Between annual meetings of the Association, if anticipated legislative developments occur, the Legislative Committee shall ask for a called meeting of the Executive Committee in order that the latter committee may act officially for the Association in advising, approving or opposing such measures or methods as the Legislative Committee may present.
4. Review and evaluate all legislative/regulatory proposals affecting the profession of pharmacy.
5. Submit a report to the Association at the annual meeting by the Chairman of the Legislative Committee or his appointed representative.

(C) Nominating Committee - The Nominating Committee composition and functions are described in Article I, Section 2, Bylaws.

(D) Resolutions Committee - The Resolutions Committee shall consist of five (5) members appointed by the President.

The duties of the Resolutions Committee shall be as follows:

1. Ensure that resolutions, position papers, and similar proposals which seek to establish Association policy or action are made appropriate and ready for consideration by the Association.
2. Receive resolutions from Association members for study and action at annual meetings. Resolutions must be in writing and presented no later than the first day of the annual meeting if the meeting is scheduled for more than one day and no later than noon if the meeting is scheduled for one day only. The Committee shall not process proposals submitted from the floor as new business.
3. Act on all proposals submitted to it and decide on matters on which the Association should take a public stand.

The functions of the Resolutions Committee shall include:

1. Returning to the originators with appropriate explanations those proposals which lack clarity or are duplications, nonsubstantive, poorly formulated or inconsistent with the Association's Constitution and Bylaws.
2. Referring to proper units or officials of the Association those proposals appropriate for their action or for preliminary processing or study prior to submission to the Association.
3. Clarifying, consolidating, and coordinating those proposals wherein potential confusion or duplication exists.
4. Presenting to the Association with recommendations for disposition those proposals which are appropriate to and ready for action by the Association.
5. Reporting to the originator the disposition of any proposal which is not presented to the Association for action.

The Committee shall establish guidelines for submission of proposed actions, policies, or organizational positions and establish timetables for consideration of such proposals. The guidelines and timetables, after approval by the Executive Committee, should be made known to all members of the Association at least six months in advance of the annual meeting.

The Committee will consider only resolutions and policy statements of a substantive nature affecting Association policy or pharmaceutical education and practice submitted at the annual meeting of the Association from various sources and will process them according to the above five functions. It is the responsibilities of the committees and groups preparing statements on policy to notify the Committee of proposed non-urgent policy requests well in advance of the annual meeting. In the absence of action by the Committee, the proposals shall be forwarded to the Executive Committee.

(E) Ethics, Grievance and Practice Committee - The Ethics, Grievance and Practice Committee composition and functions are described in Article III, Section 2 of the Constitution.

Section 3. Appointive Committees: The President

(Continued on page 11)

Constitution

shall appoint the following committees to be assigned applicable powers and duties, consistent with the Association's Constitution and Bylaws:

(A) Continuing Education
(B) Endowment/Consolidated Pharmacy Loan Fund
(C) Mental Health
(D) Public and Professional Relations
(E) Public Health
(F) Social and Economic Relations
(G) Third Party
(H) Time and Place
(I) Constitution and Bylaws

Other committees may be appointed by the President to perform such special duties as may be assigned by the President and/or the Executive Committee

Section 4. Term: The term of each member of any committee shall be one year, with the term ending at the close of the annual meeting following appointment. Except for the ex-officio member of the committee, a member shall not serve on any committee for more than four (4) consecutive years or more than three (3) committees concurrently.

Section 5. Vacancies: Vacancies on any committee may be filled for the unexpired portion of the term in the same manner as provided in the case of original appointments.

Section 6. Powers and Duties: Committees created under the provisions of these Bylaws shall have such powers and duties as are specifically given to them from time to time by the Executive Committee. Each Committee may conduct hearings, perform studies, and make reports exclusively to the Executive Committee as deemed necessary by the Committee, provided, however, all such Committee activity shall be in accordance with the objectives of the Association as defined in the Articles of Incorporation, in these Bylaws, or by the Executive Committee.

Reports of the Committee shall be submitted to the Executive Committee, and shall not be binding on the Association or the Executive Committee. The Committees shall submit such reports on such dates as may be specified by the Executive Committee, and where action by the Executive Committee is requested or required, such reports shall be forwarded to members of the Executive Committee not later than ten (10) days prior to the Executive Committee meeting at which action is to be taken. The ten (10) day report submission requirement may be waived by a two-thirds (2/3) majority vote of the Executive Committee.

Section 7. Quorum: A majority of the members of the Committee shall constitute a quorum and the act of a majority of the members present at any meeting at which a quorum is present shall be the action of the Committee. In the absence of a quorum, those members present can develop recommendations for the Executive Committee's consideration, provided the recommendations are presented to the Executive Committee with a statement identifying who was present and that the recommendations were developed at a meeting without a quorum present.

Section 8. Rules and Procedures: Each committee may adopt rules and procedures for its own governance which are not inconsistent with law, these Bylaws, the Articles of Incorporation, and any restrictions or other actions by the Executive Committee.

Section 9. Meetings: Committees shall meet from time to time on call of the President or of the Committee Chairman. At least seventy-two (72) hours confirmed notice shall be given to all committee members by the person calling the meeting, or by the Executive Director.

Section 10. Waiver of Notice: The transaction of a meeting, (whether regular or special) shall not be invalid merely because a required notice was not given, as long as a quorum was present at said meeting and the absent members signed a written waiver of notice or gave their written consent to any action take at such meeting, either before or after the meeting. Appearance at any such meeting for any reason other than to contest notice shall also constitute waiver of the required notice provisions.

Section 11. Expulsion: Committee members who miss more than two (2) consecutive or any three (3) meetings of a Committee without reasonable cause and prior notification to the committee chairman or the Executive Director shall be expelled. Absences shall be explained in writing within thirty (30) days to the Executive Director.

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Constitution

Article IV - Academies

Section 1. Establishment of Academies: Any group of 30 or more active members may petition the Executive Committee to form an academy within the organizational structure of the North Carolina Pharmaceutical Association. Such a petition must be based upon a demonstrated need and represent an identifiable and distinct field of practice that calls for special skill and knowledge. All academies shall be established on a statewide basis and membership therein shall be open to all active members.

Section 2. Structure: Each Academy shall have as officers a President, Vice-President, and Secretary. Each academy shall also have a Board of Directors of four active members of the academy.

Section 3: Purpose and Function of Academy: Academies shall have as their basic purpose the establishment and elevation of practice standards within a given practice area. Specific functions of North Carolina Pharmaceutical Association academies are to include educational, professional, governmental and economic affairs related to a specific practice area. Academies shall have no policy making authority with respect to the Association's position on given issues, but may make specific policy recommendations to the Executive Committee.

Article V - Membership

Section 1. Active Members: All pharmacists meeting the qualifications of Article IV, Section 1 of the Constitution are eligible for active membership in the North Carolina Pharmaceutical Association. Each applicant will complete a membership form available from the Association office and submit it together with annual dues in accordance with Subsection (1) below.

Subsection (1). Dues: All members shall pay the Executive Director in advance the annual dues as voted by the Executive Committee. Pharmacists residing out-of-state shall pay one-half (1/2) the annual dues. Husband and wife pharmacists shall pay one and one-half the annual dues and shall receive one mailing, with the exception of Association mail elections, for which they each shall receive a ballot.

Subsection (2). Non-Payment: Any member in arrears at any annual meeting shall not be entitled to vote. Anyone neglecting to pay annual dues shall lose membership in the North Carolina Pharmaceutical Association.

Subsection (3). Reinstatement: A member suspended from a membership classification under this Article may be readmitted upon compliance with either of the following requirements:

(A) Submission of an application for membership classification as if the person was a new member, accompanied by payment of the appropriate dues. In such case, the membership classification shall date from the time of reinstatement.

(B) Submission of all dues and assessments in arrears. In such case, the membership classification shall date from the original date elected to the membership classification.

Subsection 4. Resignation: Resignation of membership shall be made in writing to the Executive Director. The Executive Director shall acknowledge all resignations in writing and shall report them to the Executive Committee.

Section 2. Life Members: Any member in good standing meeting the qualification of Article II, Section 2 of the Constitution is eligible for life membership, and thereafter shall be exempt from all future annual dues. The cost of such membership shall be ten (10) times the individual's maximum annual dues.

Also, the Executive Committee is empowered to vote a Life Membership to a member whose contributions to the profession of Pharmacy and/or the Association have been outstanding.

Section 3. Student Members: Any student in a school of pharmacy meeting qualifications of Article IV, Section 3 of the Constitution, and paying the annual dues as determined by the Executive Committee is eligible for membership.

Section 4. Honorary Members: Honorary membership may be conferred upon non-members who have made noteworthy contributions to pharmacy. Nominations for such honorary members shall be made to the Executive Committee who shall consider and act upon such nomina-

tions. Honorary members shall have the privileges as set forth in Article IV, Section 4 of the Constitution.

Section 5. Retired Members: Any active member who is receiving social security retirement benefits, and practices less than an average of twenty (20) hours per week, is eligible for retired pharmacist membership. The dues for a retired member shall be one-half (1/2) that of active members.

Article VI - Meetings

Section 1. Official Meetings: The Association shall convene an Annual Meeting each year and such interim or special meetings as necessary to conduct the business of the Association. The membership shall be notified at least sixty (60) days in advance of an Annual Meeting and at least thirty (30) days in advance of an interim or special meeting of the Association.

Section 2. At the opening of each Annual Meeting, in the absence of the President or Vice-Presidents, one member of the Executive committee shall take the chair. In the absence of all, a President pro tempore shall be elected by the members present. In the absence of the Executive Director, the presiding officer shall appoint a Secretary pro tempore.

Section 3. Fifty members constitute a quorum.

Section 4. Registration Fee: A registration fee shall be paid by each person participating in the affairs of the annual convention, except for student members. The amount of such fee shall be fixed annually by the Executive Committee.

Article VII - Student Members

There shall be a student branch of the Association, the membership to be composed of and limited to regularly enrolled students in a school of pharmacy within the State of North Carolina. The Branch must organize itself and elect a president, a secretary, and a treasurer. These officers shall be responsible to the Executive Director of the Association for funds collected as annual Association dues. It shall have a constitution and bylaws which shall be approved by the Executive Committee and then by the membership at the next annual meeting.

Article VIII - Delegates

The Executive Committee shall annually appoint two delegates to the American Pharmaceutical Association Annual Meeting House of Delegates, two to the National Association of Retail Druggists Annual Meeting and one to the U.S. Pharmacopeial Convention.

Article IX - Amending the Bylaws

Every proposition to alter or amend these ByLaws shall be submitted in writing at one session of the annual meeting and shall be decided by ballot at a subsequent session when, upon receiving a vote of two-thirds of members present, it shall become part of the Bylaws.

Article X - Auxiliaries

Section 1. Authorization: The North Carolina Pharmaceutical Association authorizes the organization of auxiliaries of the North Carolina Pharmaceutical Association to be permanent organizations to aid in the Association's activities.

Section 2. Membership: Membership of the auxiliaries shall be comprised of either spouses of members or representatives or pharmaceutical manufacturers or suppliers who sell to pharmacists and to the drug trade in general.

Section 3. Dues: Each member of an auxiliary shall pay annual dues to the Treasurer of an auxiliary in an amount approved by the auxiliary and the Association.

Section 4. Function: The Executive Committee of the North Carolina Pharmaceutical Association shall work with the auxiliaries in matters pertaining to the program activities.

Presented: Thursday, April 11, 1985,
at the First Business Session,
1985 Annual Convention, of the North Carolina
Pharmaceutical Association, Raleigh, North Carolina

Adopted: Friday, April 12, 1985,
at the Third Business Session,
1985 Annual Convention, of the North Carolina
Pharmaceutical Association, Raleigh, North Carolina

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EXECUTIVE DIRECTOR POSITION

Position Available: Executive Director. The Oregon State Pharmaceutical Association is seeking qualified candidates for the position of Executive Director.

Candidates with a background in pharmacy are preferred but not required.

Administrative training and/or experience is required. Candidates should be able to demonstrate: executive leadership capabilities, management abilities, an understanding of legislative regulatory and political processes, and possess strong oral and written communication skills.

Preference will be given to candidates having formal training, post graduate instruction and experience in association management or administration.

Qualified candidates should submit resume, references and present compensation, to Mike Patrick, President, Oregon State Pharaceutical Association, P.O. Box 527, Redmond, OR 97756.

Tom Sanders, right, presents a check of $1,500.00 from the T.M.A. Foundation to NCPLA Executive Director Al Mebane for the Student Loan Fund.

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LOCAL NEWS

LINCOLN COUNTY PHARMACEUTICAL ASSOCIATION

The Lincoln County Pharmaceutical Association was formed in February, 1985. Current officers are:

President. . . *Harry Brogden*
First Vice President. . . *David Dalmas*
Second Vice President. . . *Jimmie Bowers*
Treasurer. . . *Ann Keever*

Current membership is thirty eight, which includes pharmacists from surrounding counties, all of whom are most welcome. The Association meets monthly except for the summer months of June, July and August. There will be no December meeting. Each meeting will include dinner and a C.E. program. Programs have been presented by Bill Sawyer, Charlotte AHEC and Dr. Joe Thomas, UNC School of Pharmacy.

CHARLOTTE WOMAN'S PHARMACEUTICAL AUXILIARY

The Charlotte Woman's Pharmaceutical Auxiliary held its May meeting at the Y.W.C.A. with Mrs. Douglas T. Corwin, president, presiding. Mrs. Jesse Oxendine gave the devotional. Using "baskets" as her theme for an installation service, Mrs. W. Don Smith installed the following officers for 1985–1986.

President – Mrs. Jesse Oxendine (Jewel)
1st Vice President – Mrs. Leslie H. Davis (Mary Lou)
2nd Vice President – Mrs. Douglas T. Corwin (Dollie)
Recording Sec'y – Mrs. Grover L. Smith (Margaret)
Corresponding Sec'y – Mrs. Tobie K. Steele (Virginia)
Treasurer – Mrs. C. Gibbs Henley (Evelyn)
Historian – Mrs. Adrian E. Galloway (June)
Advisor – Mrs. Douglas T. Corwin (Dollie)

Mrs. Corwin was presented a lovely silver tray in appreciation for her efficient and loyal service to the Auxiliary.

On Saturday, May 11th, The Charlotte Woman's Pharmaceutical Auxiliary had a delightful covered dish dinner at the home of Mr. and Mrs. Jesse Oxendine. The dinner honored Mrs. C. H. Smith, a charter member of the local Auxiliary and a former president of the State Auxiliary (1943–44). Mr. and Mrs. Smith are moving to Bismarck, North Dakota. Mrs. Douglas Corwin presented them, in behalf of the Auxiliary, a tape recorder and tapes. Many good wishes and expressions of love were recorded on a tape for them.

Virginia Steele
Corresponding Secretary

NORTHEASTERN CAROLINA PHARMACEUTICAL SOCIETY MINUTES OF LAST MEETING

The Northeastern Carolina Pharmaceutical Society held its April Meeting at the Holiday Inn in Williamston on April 17th. Approximately fifty pharmacists from the area were in attendance. Our speaker for the evening was Mike Berryman, President of the Virginia Pharmaceutical Assoc. and also President of Pharmaceutical Shared Services. Mr. Berrymans program concerned the formation of cooperative buying groups to buy from manufacturers on a contract basis. They already have over 300 drugstores signed up and are presently making plans to start signing up stores in North Carolina.

Dean Bryan
Sec./Treas.

GORDON NAMED DIVISION DIRECTOR

Robert Lee Gordon, 51, of Cary, was appointed director of the Food and Drug Protection Division of the North Carolina Department of Agriculture by state Commissioner of Agriculture Jim Graham here Friday. Gordon will assume the position July 1 following the retirement of Leonard F. Blanton of Raleigh.

A native of Yadkin County, Gordon is married to the former Sue Ratledge also of Yadkin Co. They have three children, two sons and one daughter. Gordon graduated from Yadkinville High School in 1951. He attended North Carolina State University in 1951-53 and 1957-58. He later was graduated from the University of North Carolina-Chapel Hill with a degree in pharmacy and became a registered pharmacist in 1962. Gordon practiced pharmacy from 1962 to 1974 as owner and operator of a Cary, N.C. drugstore.

He joined the NCDA as state drug administrator in 1974 and was promoted to deputy director of the Food and Drug Division in 1981, a position he has held until now.

The pharmacist served in the U.S. Army from 1954-56. He is active in numerous civic organizations in Cary and is a member of the Greenwood Forest Baptist Church there.

The Food and Drug Division of the North Carolina Department of Agriculture is comprised of 175 employees including 35 statewide inspectors. The division enforces state regulations under the Food, Drug and Cosmetic Act, as well as pesticides, anti-freeze, manufactured milk along with fertilizer and feed analyses.

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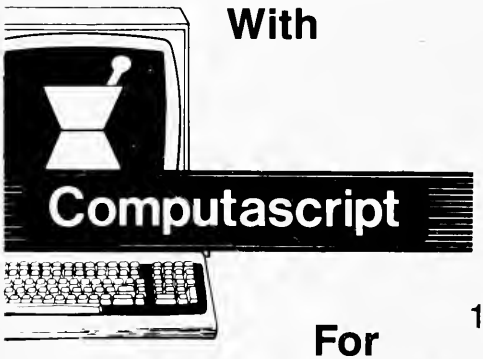

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The 420-1 is a single-user system, with 20 MB disk storage, 512K main memory, floppy disk backup, multiple processors, and 8 MHz performance.
Monthly payment — $357

Computascript 540-12

The 540-12 is a one- to two-user system, with 40MB disk storage, 512K main memory, floppy disk backup, multiple processors, and 10MHz performance.
Monthly payment — $484

Computascript 940-23

The 940-23 is a two-to three-user system, with 40 MB disk storage, 1MB main memory, floppy disk backup, multiple processors, and 10 MHz performance.
Monthly payment — $535

Computascript 8040-4

The 8040-4 is a standard super high performance four-user system, with 40 MB disk storage, 1 MB main memory, floppy disk backup, multiple processors, and 10 MHz performance. The 8040 is expandable to 16 users with 6MB main memory, and 280MB disk storage.
Monthly payment — $637

Price does not include freight (approximately $50-75), and sales tax where applicable

Purchase price for these complete systems begins at $13,995.

CLINICAL STUDY TOUR TO ROME, ITALY
October 12-19, 1985
Sponsored by North Carolina Pharmaceutical Association

Escorted tour (by Al and Betsy Mebane) includes:

...round-trip tourist class air fare on scheduled non-stop service to Rome on Trans-World Airways from New York (with connecting service direct to Kennedy Airport from other cities).

...registration at Drug Information Association Clinical Management Workshop on October 14-16, which includes sessions at the Cavalieri Hilton Hotel and planned dinner at Castello San Angelo (completed workshop program available on request); workshop has been approved for 12 contact hours continuing education credit by ACPE.

...hotel accommodations (based upon two persons per room) for the entire trip (3 nights at deluxe-class Cavalieri Hilton in Rome, 2 nights at first-class Vesuvio in Sorrento, 1 night at first-class Midas Palace in Rome) including continental breakfast, baggage handling, and connecting transportation between the airport and hotel.

...special sightseeing in Rome including dinner and illuminated tour at Ville d'Esta in Tivoli; optional sightseeing tour in Rome.

...two-night tour by luxury coach to Sorrento, Capri (Blue Grotto), Pompeii, Naples and luncheons in Pompeii and Capri, and dinner in Sorrento.

Cost: Land portion $849.00 per person (workshop attendee), $749.00 accompanying person, based upon double hotel occupancy; single room supplement, $125.00; airfare is lowest cost at time of purchase (current airfare from New York to Rome is $799.00).

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(Continued on page 21)

FRED M. ECKEL TO RECEIVE AMERICAN HOSPITAL PHARMACY'S HIGHEST HONOR

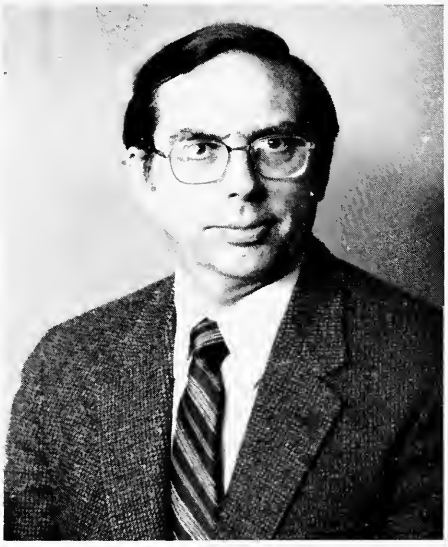
BETHESDA, MD – Fred M. Eckel, Professor of Hospital Pharmacy and Chairman of the Division of Pharmacy Practice at the School of Pharmacy, University of North Carolina, Chapel Hill, has been selected as the recipient of the 1985 Harvey A.K. Whitney Lecture Award. Eckel will accept the honor and deliver his lecture on June 5, 1985, during the 42nd Annual Meeting of the American Society of Hospital Pharmacists in Reno, Nevada.

Eckel's contributions to hospital pharmacy touch virtually every aspect of the profession. While he was director of a statewide Plan of Pharmacy Assistance program initiated in 1966, the number of North Carolina hospitals with pharmacy services increased from 19% to 95% within a three-year period. Eckel currrently is Association Director of the Pharmacy Department at North Carolina Memorial Hospital in Chapel Hill. He has been active in the implementation of unit dose, i.v. admixture, drug information, and clinical pharmacy services at the Hospital and also was instrumental in establishing an ASHP-accredited residency at the institution.

His work in education has been equally outstanding. Eckel developed an M.S. program in hospital pharmacy at the University of North Carolina and he has been an active participant in the annual educational conference for hospital residents in the southeast United States. He has published scores of articles in the pharmacy literature and is listed in *American Men and Women of Science*.

An active member of ASHP for many years, Eckel served as president of the Society in 1975-76. He also has been a member of several key ASHP committees. During his presidency, Eckel was instrumental in establishing the Society's Special Interest Group (SIG) program. Eckel also has held office or served on the board of a number of other professional societies, most notably the North Carolina Society of Hospital Pharmacists.

Harvey A.K. Whitney was a noted hospital pharmacist, editor, and educator. He was instrumental in developing a small group of hospital pharmacists into a subsection of the American Pharmaceutical Association that led eventually to the creation of the American Society of Hospital Pharmacists. He subsequently became ASHP's first president and was a co-founder of the *Bulletin of ASHP*, now the *American Journal of Hospital Pharmacy*. The Harvey A.K. Whitney Lecture Award has been given annually in his honor since 1950 to persons who have made outstanding contributions to the practice of hospital pharmacy.



Fred M. Eckel

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Rome Study Tour

(continued from page 20)

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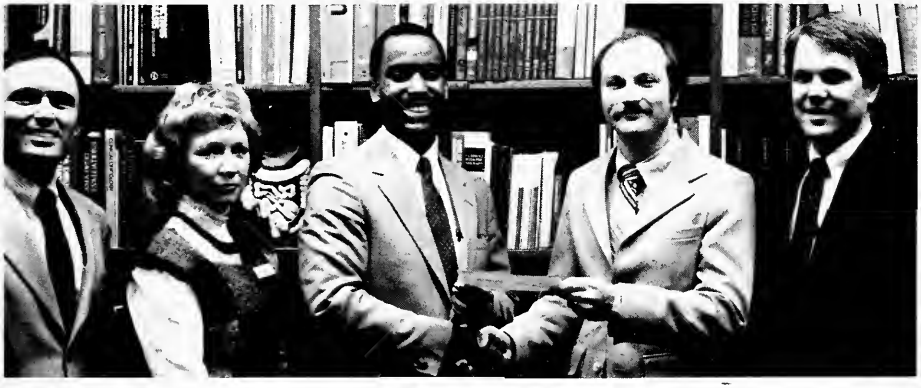

J. Richard Thompson, Moses H. Cone Memorial Hospital clinical pharmacist, received a $2,500 Hospital Pharmacy Research Grant from Roche Laboratories for his study. "The Relationship of Serum Morphine Concentration to Analgesia in Cancer Patients Receiving Continuous Morphine Infusions." Left to right: Jack Upton, Director of Pharmacy Services; Judy Couch, Director of Pharmacy; Kenneth Roundtree, Roche sales representative: Thompson; and Joseph Swedish, Director of Support Services of Moses H. Cone Hospital.

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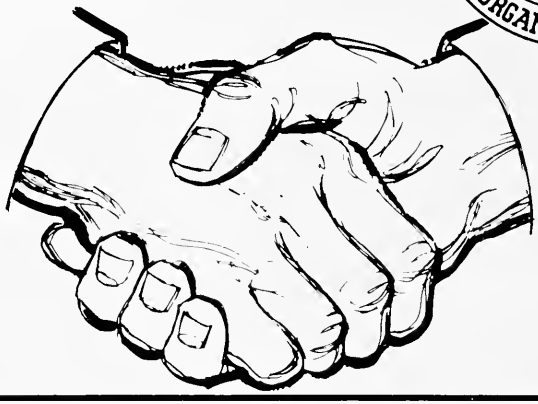

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NEW PROGRAM ON SELF-MEDICATING AVAILABLE AT SENIOR CENTERS

People over the age of 65 make up approximately 11 percent of the population. Yet they take one-third of all prescription medications and slightly more than one-half of all nonprescription, or over-the-counter (OTC) medications.

Many have chronic conditions, like hypertension, arthritis or diabetes, that require them to take several prescription and nonprescription medications. Keeping track of medication schedules presents a dilemma for many.

"Let's Take *ALL* Our Medications Seriously," is a learning kit used by senior centers and other group programs to provide older consumers with the information and skills necessary to manage their nonprescription, or over-the-counter (OTC), medications effectively. It was introduced at the National Council on the Aging (NCOA) annual meeting in San Francisco on April 23. The kit was underwritten by McNeil Consumer Products Company.

"The purpose of the program we're offering," Jack Ossofsky, NCOA executive director says, "is to help older adults understand the importance of being fully informed about all the medications they take—particularly before taking over-the-counter medicines with prescription drugs—and to seek advice from doctors or pharmacists when needed."

Peter Lamy, a Ph.D. and director of the Center for the Study of Pharmacy and Therapeutics for the Elderly, helped develop the kit.

"It is crucial for senior citizens to understand that over-the-counter drugs are *real* drugs and have the potential to change the way prescription drugs work," Dr. Lamy says. "There has long been a need for a program to address this specific issue."

The kit is divided into five learning modules, and includes printed materials and a slide/tape presentation. It is designed to encourage and reinforce good self-medication skills. The program also includes a personal health record book so participants can follow up on skills development at home.

For information on the nearest participating senior center contact Shirley Stadtmueller, Burson-Marsteller, 866 Third Avenue, New York, NY 10022 or call (212) 752-8610.

CORRESPONDENCE COURSE

COUNSELING CONSUMERS ON PSORIASIS AND ITS TREATMENT WITH OTC REMEDIES

by Thomas A. Gossel, R.Ph., Ph.D.
Professor of Pharmacology and Toxicology
Ohio Northern University, Ada, OH
and
J. Richard Wuest, R.Ph., Pharm. D.
Professor of Clinical Pharmacy
University of Cincinnati, Cincinnati, OH

GOALS

The goals of this lesson are to:

1. discuss the etiology and treatment of psoriasis;
2. review the pharmacology and therapeutics of OTC products used to treat it;
3. distinguish psoriasis from other disorders that produce similar symptoms.

OBJECTIVES

At the completion of the lesson, the successful participant will be able to:

1. choose the appropriate OTC agent for treating psoriasis;
2. explain the proper technique for applying it;
3. decide when the patient should be referred to a specialist.

One to three percent of Americans are reportedly afflicted with psoriasis. Based on the total population of the U.S., this might not be considered a large number of people. However, to those individuals who must contend with the "heartbreak of psoriasis," it is an extremely serious disorder. Visible plaques on the scalp, face, hands, or arms, or more widely spread over the body may cause them to avoid contact with the public and become virtual recluses.

Many OTC products effectively control the symptoms of psoriasis, as do several drugs that require a prescription (e.g., methotrexate, methoxsalen, anthralin). Pharmacists often interact with those patients who seek relief from their symptoms.

There are two other conditions that appear similar to psoriasis – seborrheic dermatitis and severe dandruff. Both cause symptoms that may be easily confused with psoriasis.

This month's lesson examines psoriasis from the standpoint of identifying important aggravating factors and major symptoms, and discussing rational treatment with OTC remedies. Specific attention is directed toward distinguishing psoriasis from other disorders that produce similar symptoms. Advice for consumers who purchase OTC remedies for treating psoriasis is also presented.

BACKGROUND AND SYMPTOMS

The biblical term "lepra" described a series of skin diseases that included the disorder we now call psoriasis. The association was common until the 1840's when the term was abandoned in describing psoriasis. One wonders how many people had experienced psoriasis, and because of their lesions, were needlessly shunned as being "unclean" by friends and family who believed they were lepers.

The disorder is, fortunately, relatively uncommon in America. However, the incidence of one to three percent may be a low estimation because many persons with mild conditions self-treat their symptoms without benefit of medical advice.

Psoriasis is a chronic inflammatory condition of the skin, characterized by well-defined pink or dull red

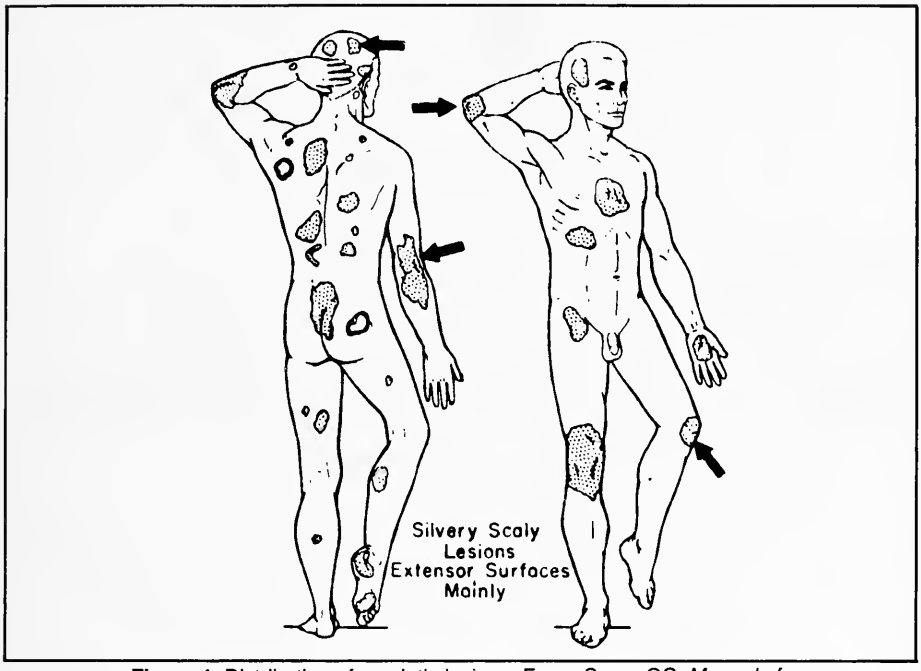

Figure 1. Distribution of psoriatic lesions. From: Sauer GC: *Manual of Skin Diseases* 3rd Ed, J.B. Lippincott Company, 1973.

lesions that have distinctive borders. These are covered with thick silvery-colored scales. If these scales are removed, they become powdery and the underlying skin may bleed in numerous spots. This phenomenon is referred to as **Auspit's sign.** While some sufferers exhibit constant scaling associated with itching and discomfort, others may experience variable periods of remission. Chronic itching is the most characteristic symptom, noted in over eighty percent of patients.

Psoriatic persons frequently have a greater than normal intolerance to cold weather. This is due to increased vasodilation and capillary proliferation which promotes a more rapid than normal loss of body heat.

Psoriasis is mainly a disease of Caucasians; ninety-eight percent of all sufferers are Caucasian. Both men and women experience it to the same extent. Psoriasis may manifest as a single lesion confined to an elbow or the scalp, or it may be found all over the body (Figure 1).

Psoriasis shows no prevalence to socioeconomic class or education. It is slightly more common in the northeast and north central states. Psoriatic lesions most commonly appear around age 30, but may emerge within the first year of life or not until old age. The condition is not contagious.

The term *psoriasis vulgaris* describes a condition resulting from lesions that coalesce into large, usually symmetrical areas. These are most commonly seen on the elbows, knees and lower back.

ETIOLOGY

Psoriasis is characterized by alterations in the epidermis, which lead to rapid turnover of cells, along with swelling of the underlying capillaries. Recall that the skin is composed of two major layers, the dermis and epidermis. The dermis (lower layer) contains a rich vascular system which supplies nutrients to all layers of the skin. The epidermis ("epi" = outer), in turn, is comprised of two major strata, neither of which has its own blood supply. The basal (lower) level of the epidermis lies directly on top of the dermis, and is well provided with all its nutritional needs from fluids that diffuse upward from the dermis.

The cells that comprise the epidermis are continually formed at the basal level. Young cells migrate upward toward the skin's surface. Because there is insufficient nutrition to sustain their life, they die approaching the surface and dehydrate. These highly compacted, dead, dried cells are collectively known

(Continued on page 33)

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as the keratin (stratum corneum) layer. With normal skin "wear and tear," replacement cells from underneath push upward and the outermost dead epithelial cells continually slough off. This process ordinarily requires three to four weeks for completion. In psoriatic conditions, however, this turnover rate changes to three to four days. As a result, both live and dead cells accumulate on the skin's surface to form the thickened, scaly patches that have the characteristic silvery appearance.

Recent research into the condition has shown that psoriasis is genetic. A familial pattern is evidenced in approximately 30 percent of all patients. Genetic susceptibility does not mean that psoriasis will automatically occur in the offspring of affected persons. For example, the condition is more likely to appear in both members of a set of identical twins than in both members of a fraternal pair. If one parent has psoriasis, the children have a twenty-five percent greater chance of developing it. If both parents are affected, the probability increases to sixty-five percent.

An alteration in the immune system also seems to play an important contributory role. For example, IgG levels can be detected in the skin of psoriatic lesions. IgG is the most important of the immunoglobins (antibodies) that are responsible for combatting infection and invasion by foreign protein material. One theory suggests that the individual lose his suppressant action on the immune system, and antibodies then form against skin antigens. This allows for formation of antigen-antibody complexes, a leukocyte response, and eventually the inflammatory lesions characteristic of psoriasis.

Numerous other theories have also been advanced as possible causes of the disorder. However, no single hypothesis explains all ramifications. At this time, the precise cause or causes remains unknown.

Aggravating Factors. Factors that have been identified as possible causes of exacerbation of psoriasis are listed in Table 1. A distinguishing feature of psoriasis is the **Koebner reaction.** Briefly, this phenomenon involves the appearance of lesions at sites of dermal injury. Most injury is physical (e.g., cuts, scratches, acute sunburn), but any other injury may also elicit a psoriatic response. The relationship between trauma and subsequent appearance of lesions is not clear. Most lesions appear within three to eighteen days of the initial trauma. Therefore, it is important that psoriatic patients avoid injury of trauma to their skin.

Scratching or picking at scales should be avoided or at least minimized. Use of adhesive tape should also be avoided. If it must be used, application should be done carefully and judiciously since its removal may stimulate a psoriatic lesion.

One thousand psoriatic sufferers responded to a questionnaire that requested information about the factors that made their conditions better or worse. Seventy-seven percent indicated that hot weather improved their condition, while twenty-three percent said it worsened it. Twelve percent indicated that cold weather made their condition worse.

Endocrine factors appear to play a role in inducing psoriatic flare-ups. Psoriasis often improves or worsens during pregnancy. It may recur or appear for th first time after childbirth. Emotional stress frequently aggravates psoriasis.

Throat infections as such as not known to cause psoriasis. However, an interesting note is that half the patients in a large study of persons who had developed psoriasis during childhood, had also suffered from a straptococcal infection that caused a sore throat immediately prior to the onset of their condition.

TABLE 1
Factors Reported to Provoke Psoriasis Attacks

Dermal lesions (e.g., cuts, burns, sunburns)
Internal streptococcal infections
Sore throat
Drugs (e.g., antimalarials, lithium salts, beta-adrenergic blockers, clonidine, potassium iodide, gold compounds)
Endocrine (e.g., psoriasis often clears during pregnancy, and flares up in menopause)
Obesity
Emotional stress
Alcoholism
Sunlight* and weather extremes
Low humidity

*Exposure to moderate amounts of sunlight is associated with improvement of psoriasis. Too much exposure or sunburn is associated with psoriatic flare-ups.

DISTINGUISHING PSORIASIS FROM OTHER AFFLICTIONS

The symptoms of psoriasis can be easily confused with those of seborrheic dermatitis or severe

(Continued on page 34)

Psoriasis

TABLE 2
Distinguishing Features of Dandruff, Seborrhea and Psoriasis

Characteristic	Dandruff	Seborrheic Dermatitis	Psoriasis
Site	Scalp	Scalp, face, and body (especially hairy areas, body folds, and behind ears.)	Scalp and body (especially knees, elbows, low back, nails)
Borders	Indistinct	Indistinct	Very sharp
Inflammation	No	Yes	Yes
Appearance of scales	Dry, grayish-white	Greasy	Silvery scales which flake off in layers
Age of onset	Puberty	Puberty	Young adulthood, as a rule, but can occur at any age
Itching	Variable	Usual	Variable
External factors that worsen condition	Cold weather	Stress, poor health	Stress, mechanical irritation. Also see Table 1
Rate of epidermal turnover	2X above the norm	More than 2X above the norm	Greatly increased above the norm (10-20X)
Duration	Can persist for life, diminishing in middle and old age	Can persist for life, frequent exacerbations and remissions	Can persist for life; exacerbations and remissions

dandruff. However, there are certain features of each disorder that allow for reliable differentiation (Table 2).

Diagnosing psoriasis is aided further by examining the fingernails and toenails. In persons with psoriasis, the hyperproliferation of nail beds, abnormal growth of nail plates, and accumulated keratin under the nails produce distorted, thick, opaque and crumbly nails. Pits and ridges in the nails are often seen. Separation of the free end of the nail from its bed becomes marked, and indeed, the nail may be completely lost. These nail changes are noted in about half of all psoriasis sufferers. While not a definitive indication of psoriasis, nail changes is one of several characteristics that help in differential diagnosis.

TREATMENT

There is a variety of OTC products that may be used by persons with psoriasis, but there is no specific cure for the disorder. The products are intended to reduce its severity and control the symptoms. Because the barrier which normally prevents drug penetration into the skin is disrupted, psoriatic skin may be more permeable than normal skin to many medications. In the early stages of treatment, the patient may, therefore, respond rapidly to a topically-applied agent. The improvement rate then slows as the skin's barrier approaches the normal state. Such improvement is hindered, however, by the itching and discomfort which are more intense when the skin is rough, dry and thick. Psoriatic individuals have a difficult time ignoring the itching and overcoming the impulse to scratch the lesions.

The ingredients contained in OTC products that were suggested by an FDA OTC advisory panel as being safe and effective for treating psoriasis are listed in Table 3. The panel advised that only mild cases of psoriasis should be self-treated, and that individuals affected with recalcitrant psoriatic lesions or those occurring over large areas of their body should be referred to a physician for treatment.

TABLE 3
Safe and Effective OTC Ingredients for Treating Psoriasis*

Coal Tar Preparations (coal tar, coal tar distillate, coal tar extract, coal tar solution, crude coal tar extract, crude tar extract, extract of coal tar, extract of coal tar solution, liquor carbonis detergens, refined extract of coal tar, solubilized coal tar extract, solubilized crude coal tar, standardized extract of coal tar, standardized tar extract)

Salicylic Acid

*ingredients classified in Category I by FDA's Advisory Review Panel on OTC Miscellaneous External Drug Products

The panel specifically noted that treatment of psoriasis requires a form of therapy different than that for dandruff or seborrhea. However, if the condition is not accurately diagnosed and anti-dandruff or anti-seborrhea therapy is used, no harm is likely to follow. The psoriasis will probably persist, but it will not worsen. However, the consumer is wasting both time and money.

Psoriasis

Coal Tar Preparations. Various products containing coal tar derivatives have been used to treat psoriasis for over a century. Today, they account for the largest share of the OTC psoriasis remedies sold in the U.S.—a market value reported to exceed $100 million each year.

Several different sources of tar have been used in previous years. Today, however, the most widely used tar preparations for controlling psoriasis (as well as dandruff and seborrheic dermatitis) are those derived from coal tar. It has not been shown that tars from various sources make a difference in the therapeutic activity of the final product. In fact, there is still little agreement as to the actual composition of coal tar.

To complicate matters further, manufacturers have attempted to refine it into more cosmetically acceptable fractionates, distillates, solutions, filtrates and tinctures. They have reduced its disagreeable physical properties even more by compounding coal tar products into shampoos, gels, lotions, bath oils and liniments. Any one of these processes may modify both the therapeutic activity and safety profiles of coal tar. Thus, the final product is probably qualitatively and quantitatively different from other products that contain coal tar prepared by alternate means.

Coal tar is believed to act as a cytostatic agent, i.e., it inhibits cell reproduction. Or, it may act as a keratolytic, penetrating the epidermis and helping to remove the scales produced in psoriasis. Its action may even be as simple as providing antisepsis through its phenolic content. The exact mode of action is not yet known.

Consumers should be reminded that coal tar preparations may stain clothing, skin, and hair (especially gray, blond, or bleached.) Coal tar imparts a characteristic odor so it should be thoroughly washed out before going out in public.

Coal tar is suspected of being carcinogenic and, indeed, chronic exposure to coal tar derivatives over

(Continued on page 37)

TABLE 4
Representative OTC Products for Relief of Psoriasis

Product	Dosage Forms						
	Bath Additive	Cream	Gel	Lotion	Ointment	Shampoo	Soap
Alphosyl		x		x			
Balnetar	x						
Cutar	x						
Denorex			x	x		x	
DHS Tar						x	
Doak	x			x	x		
Duplex T						x	
Estar			x				
Iocon						x	
Lavatar	x						
Neutrogena/T						x	
Oxipor				x			
Packer's Pine Tar						x	x
Pentrax Tar						x	
Polytar	x					x	
Pragmatar					x		
Psorex						x	
Psor Gel			x				
Tarlene				x			
Tegrin		x		x		x	
Tersa-Tar						x	
Zetar	x					x	

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Psoriasis

several decades has been shown to be linked to cancer. The FDA advisory panel concluded that coal tar correctly applied to the scalp for treating dandruff was present on the skin for such a short period of time (e.g., five to twenty minutes maximum, one to three times weekly), that it was safe for short term self-administration for dandruff control. However, since a drug product applied to the body to tret psoriasis and seborrhea may remain in contact with the skin for longer periods, additional studies to clarify coal tar's carcinogenic potential are needed before a final ruling can be made. The panel recommended that coal tar products remain available OTC while these studies are underway. Representative coal tar-containing products are listed in Table 4.

Keratolytics. Only salicylic acid was approved by the advisory panel as a safe and effective OTC antipsoriatic keratolytic agent. The panel believed that keratolytics act by dissolving the cement that holds epidermal cells together, rather than dissolving keratin itself. Keratolytics loosen the scales, enabling them to be gently rubbed free and washed off more readily. The exact mechanism for this action is not known, but it is thought to result from lowering the pH in the area. This causes the epidermal cells to become hydrated from accumulation of endogenous fluid. The scales swell, soften and shed. Keratolytics do not prevent the scales from being formed.

Sulfur and resorcinol, two keratolytics approved for other skin conditions such as acne, are *not* indicated for treating psoriasis. They were therefore, not reviewed by the advisory panel. Both substances may remain on the OTC market indicated for their other uses.

Corticosteroids. Corticosteroids possess mild anti-itching action, but have a more marked anti-inflammatory effect. Hydrocortisone products, therefore, have been suggested for OTC use in treating dandruff, seborrheic dermatitis, and psoriasis of the body and scalp along with many other uses (see "Counseling Consumers on Dermatitis and Its Treatment"). While the OTC advisory panel that reviewed it agreed that topical hydrocortisone was safe it also believed that the temporary relief of itching does not effectively "control" any of these conditions. Effective treatment should involve control of the excessive shedding of epidermal cells. The panel, therefore, recommended that corticosteroids need additional study to show proof of effectiveness.

On the prescription side of the ledger, the fluorinated corticosteroids are widely used and quite effective in ameliorating a wide variety of dermatological conditions in many patients. However, because of their greater potential for systematic side effects (fluorinated steroids are much more readily absorbed than hydrocortisone), especially when the skin occluded after application, their use requires physicians supervision.

Emollients and Moisturizers. Bathing each day for thirty minutes with an oil emollient usually affords the psoriatic person symptomatic relief from itching and dry skin. Bath water should be comfortably warm but not too hot. Bathing with an emollient also softens the skin and helps remove the thick scales so that subsequently applied medications can more easily penetrate the skin. Furthermore, removing these scales with a washcloth improves the individual's physical appearance and mental attitude. It also reduces the victim's temptation to pick them off, an activity associated with bleeding and secondary infection. Representative OTC emollient bath additives are listed in Table 5.

Other products that contain moisturizing agents which help the skin to preserve moisture are used between bathings. Like emollient bathing products, these products help relieve itching and remove scales. The key word here is *emollient*. Simply bathing in plain water can potentially worsen the condition because water can dry the skin. Keratin does need moisture, but some other substance (i.e., an emollient) is needed to slightly occlude the area and hold the water on the skin.

TABLE 5
Representative OTC Emollient Bath Additives

Alpha Keri
Aveeno Colloidal Oatmeal
Aveeno Oilated
Bath-O-Vel
DOB
Domol
Jer-Bath
Kerasol
Lubath
LubraSol
Nutraderm
NutraSpa
Pedi-Bath
RoBathol
Ultra-Derm

CONSUMER ADVICE

Advising consumers on the self-treatment of psoriasis involves empathetic understanding of the condition. There is no absolute "cure". The only definitive

(Continued on page 38)

Psoriasis

treatment to date involves products that have the potential for causing toxicity to the extent that they are only available under medical supervision. In many persons with mild, uncomplicated psoriasis, especially that which remits from time to time, OTC products can lessen the severity of symptoms and makes the condition more bearable.

If this constitutes adequate relief for the individual, the relatively nontoxic OTC products will be suitable. If the person is not satisfied with this, or if the condition worsens, he should seek the advice of a specialist in dermatology. Some rather remarkable results are being reported with the use of the prescription-only antipsoriatic therapies such as fluorinated topical corticosteroids with occlusion, oral methotrexate, and PUVA (psoralens with ultraviolent light–"A" wave length).

As far as the use of OTC products is concerned, strict compliance is needed for the medication to provide effective relief. Consumers should carefully read, understand, and follow directions. Daily use is recommended for most products.

In some instances, the creams, gels, lotions or ointments are to be applied several times a day and/or at bedtime. If the scalp is involved, medicated shampoos are recommended for morning use. Some manufacturers advise that shampoos should be massaged throughout the scalp area into a rich lather, and be allowed to remain on the scalp for a few minutes before rinsing. If the product's odor is offensive, a bland shampoo can be applied after the medicated product has been removed. A fine-tooth comb may be useful in removing scales from the scalp.

When treating psoriatic areas on the body, the medication should be gently massaged into the lesion to loosen and remove crusts and scales. The massaging should be firm but not so hard that the skin is broken. A hot bath prior to application of the medication may be helpful in removing scales.

These general precautions should be heeded: 1) avoid contact of the medication with the eyes and other mucous membranes, 2) discontinue use and contact a physician if irritation and worsening of the condition occurs.

CE Test on Page 41

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Friday evening	
August 2, 1985	Reception
8:00 p.m.	Campbell House
Marshbanks Dining Hall	6:30 p.m.

William H. Randall, Jr., Lillington, will be recognized as the 1985 *Pharmacist of the Year* at a dinner held in his honor Friday, August 2, 1985. The dinner will be held in the Marshbanks Dining Hall at Campbell University in Buies Creek, and will be preceded by a reception at the historic J.A. Campbell House just off campus.

Arrangements have been made with Campbell University for overnight accommodations on Friday in one of their new dormitories. Cost is $5.25 a room, each of which has a private bath and two twin beds. Golf is available at Keith Hills Golf Course, also at Campbell University. Overnight accommodations and golf tee time can be reserved through NCPhA office. Keith Hills is a popular championship course, so please make your requests early. A map of the area will be sent with dinner reservations.

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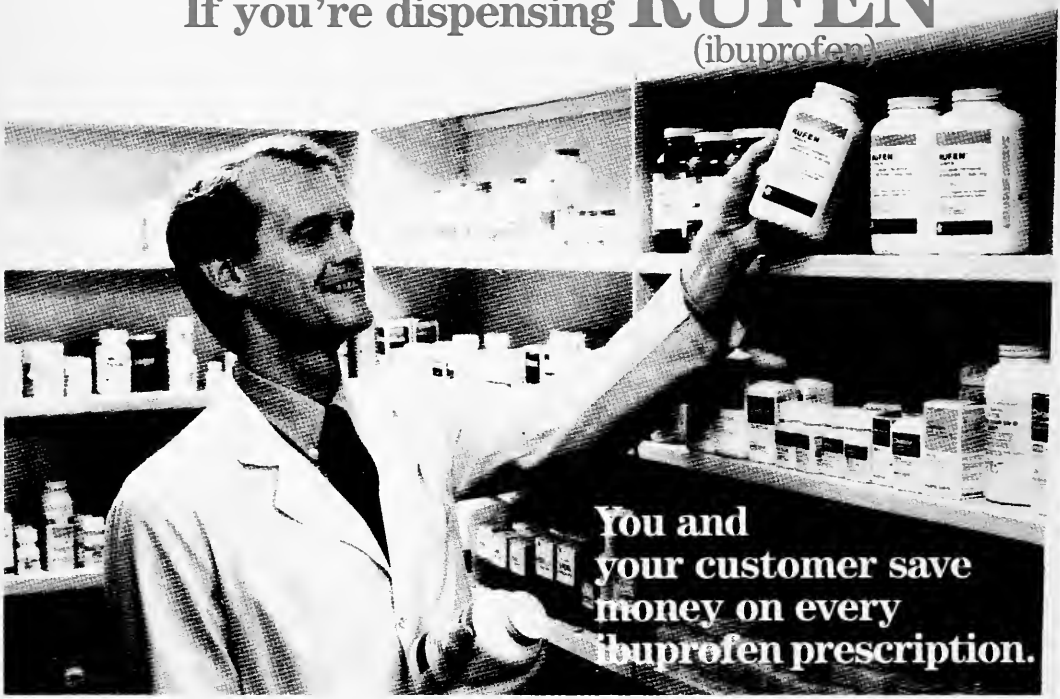

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CORRESPONDENCE COURSE QUIZ

Psoriasis

1. Which of the following is a true statement?
   a. Psoriasis affects Black persons more than Caucasians.
   b. Psoriasis occurs more commonly in persons living in southern states than those in the northern part of the country.
   c. Psoriasis may manifest itself as a single lesion or be widespread over the body.
   d. Psoriasis affects men to a far greater degree than women.
2. Most psoriatic patients reportedly believe that hot weather:
   a. aggravates their condition.
   b. has no effect on their condition.
   c. improves their condition.
3. Keratolytic agents exert all of the following actions EXCEPT:
   a. dissolve cement material that holds epidermal cells together.
   b. dissolve the keratin that holds epidermal cells together.
   c. lower the pH in the area to which they are applied.
   d. hydrate epidermal cells.
4. Which of the following is a true statement regarding psoriasis?
   a. OTC products do NOT lessen the severity of symptoms of mild psoriasis.
   b. Hydrocortisone is available OTC because it is a fluorinated steroid.
   c. OTC products are just as effective in treating psoriasis as are the prescription drugs.
   d. Salicylic acid has been found to be a safe and effective antipsoriatic keratolytic.
5. The OTC antipsoriatic product that is commercially available as both a bath additive and a shampoo is:
   a. Packer's Pine Tar
   b. Pragmatar
   c. Tegrin
   d. Zetar
6. Which of the following is a characteristic that differentiates psoriasis from seborrhea?
   a. Can persist for life
   b. Lesions can be induced by stress
   c. Inflammation on the scalp and body
   d. Silver-colored scales with very sharp borders
7. The type of psoriasis that results from lesions that coalesce into large, usually symmetrical areas is called:
   a. *Psoriasis capitus*
   b. *Psoriasis vulgaris*
   c. *Psoriasis corporis*
   d. *Psoriasis symmetrens*
8. All of the following factors promote psoriatic attacks EXCEPT:
   a. antimalarial drugs
   b. emotional stress
   c. excessive sunlight
   d. high humidity
9. An FDA panel recommended that corticosteroids need additional study to show proof of effectiveness because effective treatment of psoriasis SHOULD involve:
   a. controlling excessive shedding of epidermal cells.
   b. dehydrating keratin tissue cells.
   c. increasing vasodilation in the epidermal layers of skin.
   d. temporary relief of itching to give the skin time to heal.
10. All of the following can be correctly recommended to a consumer requesting an emollient bath additive EXCEPT:
    a. Alpha Keri
    b. Aveeno Oilated
    c. Denorex
    d. Lubath
11. The phenomenon whereby the underlying skin bleeds when psoriatic scales are removed is called:
    a. Addison's reaction
    b. Auspit's sign
    c. Koebner's reaction
    d. Koplic spots
12. The most commonly used OTC products for treating psoriasis contain:
    a. allantoin
    b. coal tar
    c. hydrocortisone
    d. salicylic acid
13. Both live and dead cells accumulate on the skin's surface to form the scaly patches characteristic of psoriasis because the epithelial cell turnover rate is:
    a. faster than normal
    b. slower than normal

(Continued on page 42)

CE Quiz

14. Psoriatic skin is:
    a. less permeable to drug penetration than normal.
    b. more permeable to drug penetration than normal.

15. The phenomenon whereby lesions form at the site of dermal injury in psoriatic patients is called:
    a. Addison's reaction
    b. Auspit's sign
    c. Koebner's reaction
    d. Koplic spots

*Name*_____

Address _____ *City* _____ *State* _____ *Zip* _____

This Continuing Education series is a member service of the NCPhA and is available to members at no charge. Please circle the correct answers and send to CE Test, P.O. Box 151, Chapel Hill, NC 27514. A grade of 90% is required for CE credit. You will be notified if your test score is not satisfactory, and may resubmit your test within 30 days of notification. This test is accredited for ONE (1) hour of Pharmacy Continuing Education.

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3. a b c d	*7. a b c d*	*11. a b c d*	*15. a b c d*
4. a b c d	*8. a b c d*	*12. a b c d*	

BIRTHS AND MARRIAGES

Bill and Janice Davis of Cooper City, Florida announce the birth of their son, Kevin McKinne Davis, on April 27, 1985. The former JANICE McKINNE is a 1980 graduate of the UNC School of Pharmacy at Chapel Hill.

MARTHA WEST BENNETT and John Freeman Paylor were united in marriage Saturday, May 18, 1985 at 7 p.m. in the First Presbyterian Church in Greenville, N.C.

The bride graduated from the School of Pharmacy, University of North Carolina at Chapel Hill and is a manager/pharmacist at Peoples Prescription Center in Elizabeth City. The bridegroom is a retail mortgage officer with Wachovia Bank and Trust Co. and is also a graduate of UNC-CH. The couple will live in Elizabeth City.

Nelson Allen Higgins (UNC '76) and RUTH HALL HIGGINS (UNC School of Pharmacy '78) of Black Mountain, NC announce the birth of Robert "Edwin" Allen Higgins on May 9, 1985. Edwin weighed 6 lbs. 8½ oz. and was 20½ inches long. We welcome another little "Tarheel".

DENISE RENEE MASSEY and Jarvis Wesley Perry, III, both of Zebulon were united in marriage at Pearce Baptist Church February 10. The Rev. C.W. Driver performed the candlelight double-ring ceremony.

The bridge is a graduate of the University of North Carolina School of Pharmacy and is employed at Revco Discount Drug Center. Her husband is a graduate of Louisburg College and also is employed by Revco. They live in Wendell, NC.

1985 officers of the Northeastern Carolina Pharmaceutical Society are, left to right: Bill Brown, Vice President; Wallace Nelson, Past President; Bob Bowers, President; Dean Bryan, Secretary-Treasurer; and Al Mebane Executive Director, NCPhA, who conducted the officer installation.

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Claude U. Paoloni, right, presents the 1985 Syntex Practitioner-Instructor of the Year Award to Les Collins, Wilmington, at the Annual Convention in Raleigh. Photo by Colorcraft.

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THE CAROLINA JOURNAL of PHARMACY

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JUNE 1985 VOLUME 65 NUMBER 6

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ANNUAL REPORT OF THE SCHOOL OF PHARMACY, THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL AND THE PHARMACY FOUNDATION OF NORTH CAROLINA, INC. 1984-1985

by Tom S. Miya, Dean
UNC School of Pharmacy

PRESENTED TO THE NORTH CAROLINA PHARMACEUTICAL ASSOCIATION APRIL 11, 1985 NORTH RALEIGH HILTON, RALEIGH, N.C.

I am pleased to report another year of excellent progress for the School and the Foundation. Up front, on behalf of the faculty and students of all categories, I wish to acknowledge with much appreciation all of your collective and individual support. During my eight years and three months as Dean I have never felt more confident of our future and our goal of excellence.

I would like to share with you first the highlights of our accomplishments and follow it with some indicators why I am bullish about our ability to meet the challenges of the 80's.

- Students Beverly Thorndyke (4/5) and Laurie O'Daniel (3/5) won the Focus on Pharmacy Award of the American Pharmaceutical Association at the Convention in San Antonio, winning over Drake University, University of Georgia, Tennessee and Purdue University who received honorable mention.
- Our Honors Program, now in its second year, is developing our best students to their fullest potential. If any of your sons or daughters are in this program, you should be rightfully proud.
- Our faculty published a total of 70 research articles in peer-reviewed journals, 30 general articles, 3 textbooks, 8 book chapters, 17 abstracts, 7 book reviews, 2 proceedings, and 7 monographs. Since others get to know and judge our School only by such activities, it is indeed gratifying that scholarly excellence is becoming a hallmark of our faculty.
- Tied to scholarly activity is the ability of our faculty to generate extramural funds to pursue their varied projects. This year extramural funds reached one million dollars. These funds allow our faculty to develop and have more than ancillary impact on the total educational process of all students. The magnitude of such extramural funds is unparalelled in the School's history. Let me add at this point that of the total operating budget of the University of North Carolina at Chapel Hill only 32% comes from State appropriations.
- The School and the Pharmacy AHEC presented 122 continuing education programs at 23 sites for a total of 309 hours of instruction.
- Dr. Jean Paul Gagnon will be installed as President of the American Association of Colleges of Pharmacy during its annual meeting to be held in San Francisco this July. This will give Jean and the School added visibility during what will be a busy but rewarding year for Dr. Gagnon.
- The School's portion of the Hollingsworth bequest reached $335,000 in February 1985 and is dedicated to endowed scholarships.
- The School engaged in a critical self-study exercise in preparation for the accreditation site visit by the American Council on Pharmaceutical Education in mid-March. Although the final report of the accreditation is not yet available, I am confident the School will receive the full 6-year accreditation.

Photo by Colorcraft

Dean Tom S. Miya

(continued on page 6)

UNC SCHOOL OF PHARMACY

- Major curriculum revisions have been made; instructional reforms are now being addressed.
- The School of Pharmacy Faculty Code and the Appointment, Reappointment, Tenure and Promotion documents have been revised and adopted by the Faculty.

Barometers for the future look promising.

- The Doctor of Pharmacy Program has received funds to expand our entering class from 5 to 15. Our grave concerns regarding quality have prevented us from expanding this program.
- Arrangements have been made with Glaxo Inc. and their scientific personnel to interact with the School's faculty and resources. This, together with the on-going interactions with

Table I. Summary of Applications and Admissions for Fall, 1983 and Fall, 1984

	APPLICANTS						ADMISSIONS					
	1983			1984			1983			1984		
	M	F		M	F		M	F		M	F	
B.S. Pharmacy UNC-CH												
GC	30	68	98	32	63	95	27	56	83	30	54	84
IU	20	21	41	12	26	38	14	15	29	10	19	29
Read	7	4	11	6	6	12	6	3	9	6	4	10
Totals	57	93	150	50	95	145	47	74	121	46	77	123
Outside Transfers												
In-State	29	43	72	27	44	71	15	20	35	12	25	37
Out-of-State	11	10	21	14	13	27	0	4	4	1	3	4
Totals	40	53	93	41	57	98	15	24	39	13	28	41
Grand Totals	97	146	243	91	152	243	62	98	160	59	105	164*
Pharm. D												
All Applicants	11	10	21	16	22	38	4	2	8	1	7	8

*(Estimated as of July 2, 1984)

KEY: GC = General College
IU = Intrauniversity
READ = Readmit

Burroughs Wellcome Company, will serve to bring together multiple resources for mutual benefit.

- A series of new appointments will instill additional vigor into existing and new programs. These include: Stephen M. Caiola as Director of the Pharmacy AHEC beginning 1 July; Betty H. Dennis as Director of Continuing Education, 1 January 1985; A. Wayne Pittman as Director of Academic Program Development, 1 January 1985; and Charles C. Pulliam, Director of the Pharmacy Health Promotion and Disease Prevention Program, 1 January 1985.
- The School of Pharmacy Alumni Association, the UNC Alumni Association, and the Development Office are increasingly working together to increase the image of the School.

Some demographic data are shown below. Table I shows 1983, 1984 comparisons of the applicant pool. Table II shows total enrollment figures for the 1983-84 by year in the school and by gender. Note that female students make up 64% of the 1984 enrollment. Table III shows the degree conferred during the academic year 1983-84.

Table II. Summary of Fall, 1983 and Fall, 1984 Enrollment in the B.S. Pharmacy Degree Program

	FALL, 1983			FALL, 1984 (Estimate)		
	M	F	Total	M	F	Total
Third Year	60	104	164	59	105	164
Fourth Year	56	103	159	57	99	156
Fifth Year	67	107	174*	62	107	169*
Totals	183	314	497	178	311	489

* Includes students held over from previous fifth year class.

Table III. Degrees Conferred, Academic Year 1983-84

B.S. in Pharmacy		Doctor of Pharmacy		Graduate Degrees	
August, 1983	1	August, 1983	2	M.S.	9
December, 1983	40	May, 1984	7	Ph.D.	1
May, 1984	119				
Total	160	Total	9	Total	10

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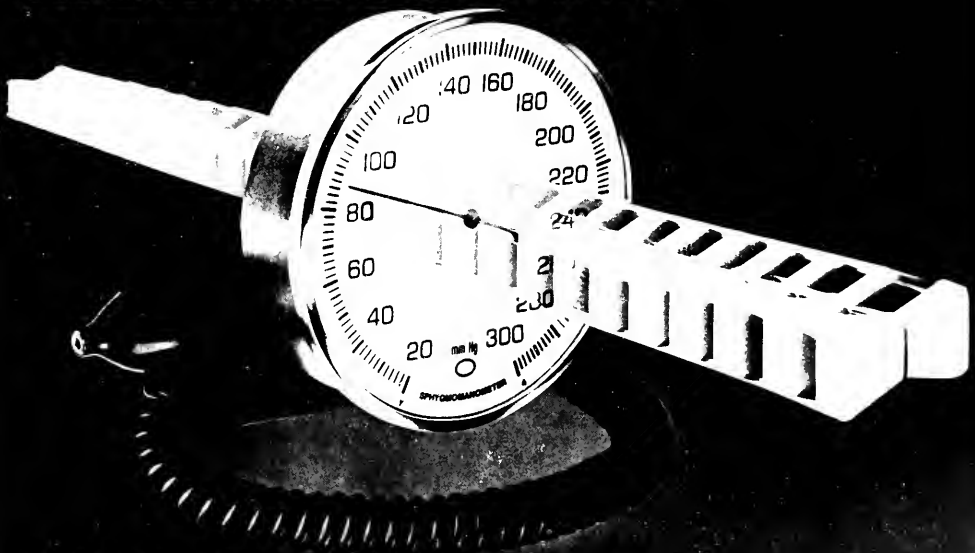
Triamterene **75 mg**/Hydrochlorothiazide **50 mg**/Lederle

THE FIRST AND ONLY REPLACEMENT FOR THE LESS BIOAVAILABLE TRIAMTERENE/ HYDROCHLOROTHIAZIDE FORMULATION... PROVEN SUPERIOR IN BIOAVAILABILITY



MAXZIDE™, 75 mg triamterene, 50mg hydrochlorothiazide, a new diuretic, antihypertensive medication, has been approved by North Carolina Medicaid. The appropriate procedure codes are 0005-4460-43 for bottles of 100 and 0005-4460-60 for 10x10 unit dosage. Please see the next page for a brief summary of prescribing information.

Please see next page for brief summary of prescribing information.

Once-a-day MAXZIDE™

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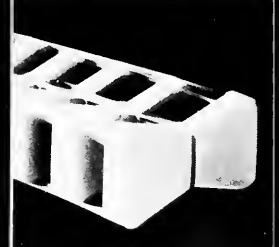

A CLINICALLY SAFE AND EFFECTIVE ALTERNATIVE IN POTASSIUM-SPARING ANTIHYPERTENSIVE THERAPY

BRIEF SUMMARY

Please see package insert for full prescribing information

INDICATIONS AND USAGE: *MAXZIDE is indicated for the treatment of hypertension or edema in patients who develop hypokalemia on hydrochlorothiazide alone. It is also indicated for those patients who require a thiazide diuretic and in whom the development of hypokalemia cannot be risked (e.g., patients on digitalis preparations or with a history of cardiac arrhythmias, etc.).* ***This fixed combination drug is not indicated for the initial therapy of edema or hypertension except in individuals in whom the development of hypokalemia cannot be risked.*** *MAXZIDE may be used alone or in combination with other antihypertensive drugs such as beta-blockers. Since MAXZIDE may enhance the actions of these drugs, dosage adjustments may be necessary. Usage in Pregnancy: The routine use of diuretics in an otherwise healthy woman is inappropriate and exposes mother and fetus to unnecessary hazards. Diuretics do not prevent development of toxemia in pregnancy, and there is no satisfactory evidence that they are useful in the treatment of developed toxemia.*

CONTRAINDICATIONS: *Hyperkalemia. MAXZIDE should not be used in the presence of elevated serum potassium levels (greater than 5.5 mEq/liter). If hyperkalemia develops, this drug should be discontinued and a thiazide alone should be substituted. Concomitant use with other potassium conserving agents such as spironolactone, amiloride HCl or other formulations containing triamterene. Concomitant potassium supplementation in the form of medication, potassium-containing salt substitute or potassium-enriched diets should also not be used. Contraindicated in patients with anuria, acute and chronic renal insufficiency or significant renal impairment. Hypersensitivity to either component separately or other sulfonamide-derived drugs.*

WARNINGS: *Hyperkalemia.*

> *Abnormal elevation of serum potassium levels (greater than or equal to 5.5 mEq/liter) can occur with all potassium conserving agents including MAXZIDE. Hyperkalemia is more likely to occur in patients with renal impairment, diabetes (even without evidence of renal impairment), or elderly or severely ill patients. Since uncorrected hyperkalemia may be fatal, serum potassium levels must be monitored at frequent intervals especially in patients first receiving MAXZIDE, when dosages are changed, or with any illness that may influence renal function.*

If hyperkalemia is suspected, (warning signs include paresthesias, muscular weakness, fatigue, flaccid paralysis of the extremities, bradycardia and shock) an electrocardiogram (ECG) should be obtained. Monitor serum potassium levels because mild hyperkalemia may not be associated with ECG changes. If hyperkalemia is present, MAXZIDE should be discontinued immediately and a thiazide alone should be substituted. If the serum potassium level exceeds 6.5 mEq/liter, more vigorous therapy is required. The clinical situation dictates the procedures to be employed. These include the intravenous administration of calcium chloride solution, sodium bicarbonate solution and/or the oral or parenteral administration of glucose with a rapid acting insulin preparation. Cationic exchange resins such as sodium polystyrene sulfonate may be orally or rectally administered. Persistent hyperkalemia may require dialysis. The development of hyperkalemia associated with potassium-sparing diuretics is accentuated in the presence of renal impairment (see CONTRAINDICATIONS). Patients with mild renal functional impairment should not receive this drug without frequent and continued monitoring of serum electrolytes. Cumulative drug effects may be observed in patients with impaired renal function. The renal clearances of hydrochlorothiazide, the pharmacologically active metabolite of triamterene, and the sulfate ester of hydroxytriamterene have been shown to be increased and the plasma levels increased following MAXZIDE administration to elderly patients and patients with impaired renal function. Hyperkalemia has been reported in diabetic patients with the use of potassium conserving agents even in the absence of apparent renal impairment. Avoid MAXZIDE in diabetic patients. If it is employed, serum electrolytes must be frequently monitored. Metabolic or Respiratory Acidosis. Potassium conserving therapy should also be avoided in severely ill patients in whom respiratory or metabolic acidosis may occur, since acidosis may be associated with rapid elevations in serum potassium levels. If MAXZIDE™ triamterene 75mg/hydrochlorothiazide 50mg is employed, frequent evaluations of acid/base balance and serum electrolytes are necessary.

PRECAUTIONS: *Electrolyte Imbalance and BUN Increases. Patients receiving MAXZIDE should be carefully monitored for fluid or electrolyte imbalances, i.e., hyponatremia, hypochloremic alkalosis, hypokalemia and hypomagnesemia. Serum and urine electrolyte determinations should be frequently performed and are especially important when the patient is vomiting or receiving parenteral fluids. Warning signs or symptoms of fluid and electrolyte imbalance include: dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia and gastrointestinal disturbances such as nausea and vomiting.*

Any chloride deficit during thiazide therapy is generally mild and usually does not require any specific treatment except under extraordinary circumstances (as in liver disease or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt, except in rare instances when the hyponatremia is life threatening. In actual salt depletion, appropriate replacement is the therapy of choice.

Hypokalemia may develop with thiazide therapy, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids, ACTH, amphotericin B or after prolonged thiazide therapy. However, hypokalemia of this type is usually prevented by the triamterene component of MAXZIDE.

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Hypokalemia can sensitize or exaggerate the response of the heart to the toxic effects of digitalis (e.g., increased ventricular irritability).

MAXZIDE may produce an elevated blood urea nitrogen level (BUN), creatinine level or both. This is probably not the result of renal toxicity but is secondary to a reversible reduction of the glomerular filtration rate or a depletion of the intravascular fluid volume. Periodic BUN and creatinine determinations should be made especially in elderly patients, patients with suspected or confirmed hepatic disease or renal insufficiencies. If azotemia increases, MAXZIDE should be discontinued.

Hepatic Coma. MAXZIDE should be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma. Renal Stones: Triamterene has been reported in renal stones in association with other calculus components. MAXZIDE should be used with caution in patients with histories of renal lithiasis. Folic Acid Deficiency. Triamterene is a weak folic acid antagonist and may contribute to the appearance of megaloblastosis in instances where folic acid stores are decreased. In such patients, periodic blood evaluations are recommended. Hyperuricemia. Hyperuricemia may occur or acute gout may be precipitated in certain patients receiving thiazide therapy. Metabolic and Endocrine Effects. The thiazides may decrease serum PBI levels without signs of thyroid disturbance.

Calcium excretion is decreased by thiazides. Pathological changes in the parathyroid gland with hypercalcemia and hypophosphatemia have been observed in a few patients on prolonged thiazide therapy. The common complications of hyperparathyroidism such as renal lithiasis, bone resorption, and peptic ulceration have not been seen. Thiazides should be discontinued before carrying out tests for parathyroid function.

Insulin requirements in diabetic patients may be increased, decreased or unchanged. Latent diabetes mellitus may become manifest during thiazide administration. Hypersensitivity: Sensitivity reactions to thiazides may occur in patients with or without a history of allergy or bronchial asthma.

Possible exacerbation or activation of systemic lupus erythematosus by thiazides has been reported. Drug Interactions: Thiazides may add to or potentiate the action of other antihypertensive drugs.

The thiazides may decrease arterial responsiveness to norepinephrine. This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use. Thiazides have also been shown to increase responsiveness to tubocurarine.

Lithium, when given with diuretics, reduces renal clearance and increases the risk of lithium toxicity. Refer to the package insert on lithium before use of such concomitant therapy.

Acute renal failure has been reported in a few patients receiving indomethacin and other formulations containing triamterene and hydrochlorothiazide. Caution is therefore advised when administering nonsteroidal anti-inflammatory agents with MAXZIDE.

Drug/Laboratory Test Interactions: Triamterene and quinidine have similar fluorescence spectra; thus MAXZIDE may interfere with the measurement of quinidine.

Pregnancy. Category C: The safe use of MAXZIDE in pregnancy has not been established. Animal reproduction studies have not been conducted with MAXZIDE™ triamterene 75mg/hydrochlorothiazide 50mg. It is also not known if MAXZIDE can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. Thiazides cross the placental barrier and appear in cord blood. The use of thiazides in pregnant women requires that the anticipated benefit be weighed against possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, pancreatitis, and possibly other adverse reactions which have occurred in the adult. MAXZIDE should be given to a pregnant woman only if clearly needed.

Nursing Mothers: Thiazides appear in breast milk. If the use of MAXZIDE is deemed essential, the patient should stop nursing. Pediatric Use: The safety and effectiveness of MAXZIDE in children has not been established.

ADVERSE REACTIONS: *Side effects observed in association with the use of MAXZIDE include drowsiness and fatigue, insomnia, muscle cramps and weakness, headache, nausea, appetite disturbance, vomiting, diarrhea, constipation, dizziness, decreased sexual performance, shortness of breath and chest pain, dry mouth, depression and anxiety. These adverse reactions are common to other triamterene and hydrochlorothiazide containing products. Other adverse reactions include:*

Hydrochlorothiazide:

Gastrointestinal: anorexia, gastric irritation, cramping, jaundice (intrahepatic cholestatic jaundice), pancreatitis, sialadenitis. Central Nervous System: vertigo, paresthesias, xanthopsia. Hematologic: leukopenia, agranulocytosis, thrombocytopenia, aplastic anemia, hemolytic anemia, megaloblastosis. Cardiovascular: orthostatic hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Hypersensitivity: anaphylaxis, purpura, photosensitivity, rash, urticaria, necrotizing angiitis (vasculitis, cutaneous vasculitis), fever, respiratory distress including pneumonitis. Other: hyperglycemia, glycosuria, hyperuricemia, restlessness, transient blurred vision.

Triamterene:

Hypersensitivity: anaphylaxis, photosensitivity and rash. Other: Triamterene has been reported in renal stones in association with other calculus materials. Triamterene has been associated with blood dyscrasias. Whenever adverse reactions are moderate to severe, therapy should be reduced or withdrawn.

DOSAGE AND ADMINISTRATION: *The recommended dosage of MAXZIDE is one tablet daily with appropriate monitoring of serum potassium levels (see WARNINGS). Patients receiving 50 mg of hydrochlorothiazide who become hypokalemic may be transferred to MAXZIDE directly. In patients requiring 50 mg of hydrochlorothiazide in whom hypokalemia cannot be risked, therapy may be initiated with MAXZIDE. There is no clinical experience with doses exceeding one tablet daily.*

Clinical studies have shown that patients already taking less bioavailable formulations of triamterene and hydrochlorothiazide (totaling 50-100 mg of hydrochlorothiazide and 100-200 mg of triamterene) may be safely changed to one MAXZIDE™ triamterene 75mg/hydrochlorothiazide 50mg tablet per day; these patients should be monitored clinically and with serum potassium after the transfer.

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PHARMACY FOUNDATION OF NORTH CAROLINA, INC. July 1, 1983 - June 30, 1984

The Foundation has served the University of North Carolina at Chapel Hill School of Pharmacy well for over 38 years. It was the first such foundation to be created to assist a specific school of pharmacy.

Four members of the Board of Directors elected by the North Carolina Pharmaceutical Association were Laura Burnham, Tom R. Burgiss, John C. Hood, and L. Milton Whaley. Two members elected to the Board of Directors were Ernest J. Rabil and Joseph P. Tunstall.

Officers confirmed to continue in their office were Ralph P. Rogers, Jr., President; Ed A. Brecht, Vice President; and Tom S. Miya, Secretary. Executive Committee members affirmed by the Board were Ralph P. Rogers, Jr.; E.A. Brecht; Tom S. Miya, ex officio; Paul Bissette, Roger Sloop; and W.J. Smith.

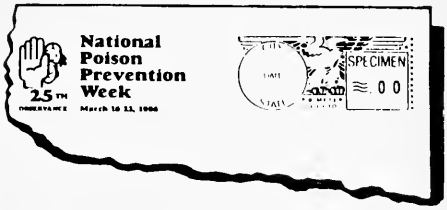
The Foundation had an excellent year in contributions with $137,448 to the Endowment Fund and $37,529 for expendable gifts and contributions for current use. This totals $174,977 for the year. On June 30, 1984 the grand total for gifts received by the Foundation and the School was $323,688 at the end of June 1984, the largest in history. This total reflects a large bequest from the late Mary L. Hollingsworth of $125,000 each to the School and the Foundation.

The School has requested and judiciously expended Foundation resources and thus the Foundation's assets on June 30, 1984 approached $1M.

Foundation funds were used to recruit students, support student scholarships, faculty activities, and for two junior faculty research "seed money" grants of $1,500 each. Such grants have allowed our faculty to be more competitive in the extramural fund arena and, as mentioned previously, $1M was generated by the faculty, an amount equal to the total assets of the Foundation. The total Foundation funds expended by the School during this period was less than $48,000, a great return on the dollar.

On behalf of the School, its faculty and its students, I wish to take this opportunity to express appreciation to each of you for your support. The Foundation will play an increasingly important role in our race towards excellence.

POISON PREVENTION WEEK PLANS 25th ANNIVERSARY



March 16–22, 1986 will mark the 25th annual observance of National Poison Prevention Week (NPPW). Initiated in 1961, poison prevention activities over the years have contributed to a marked decrease in accidental poisonings among children. To celebrate the successes of this observance, the Poison Prevention Week Council is encouraging pharmacies to begin promoting the 25th anniversary of NPPW through the use of a postage meter advertising plate. Available from your Pitney Bowes Local representative, you may order the special plate using number PMA 575 and indicating slug Type R, Type DM, Type DM-3, 8300 series or 8700 series. The cost is $19 per plate.

While special attention is focused on poison prevention efforts each March, activities are needed all year long. A recent study, for example, reveals that 36% of childhood ingestions now involve their grandparent's medication. The use of child-resistant closures is an important step in solving this problem and parents and grandparents alike need to be informed. The Closure Manufacturers Association (CMA) has published a poster with the theme, "Safety Caps Save Lives...But Only If You Use Them" to help pharmacists educate their customers about this problem. Quantity discounts are available; orders should be placed by contacting: CMA, 6845 Elm Street, Suite 208, McLean, VA 22101, 703-821-1118.

REPORT ON SCHOOL OF PHARMACY CAMPBELL UNIVERSITY BUIES CREEK, NORTH CAROLINA

by Dr. Jerry M. Wallace, Provost
Campbell University, Buies Creek, North Carolina

presented to the North Carolina Pharmaceutical Association Convention, Raleigh, North Carolina, April 12, 1985

The possibility of establishing a School of Pharmacy at Campbell University has been considered since 1975.

Active consideration of a School of Pharmacy was begun in 1982. In March, 1984, Dr. Wallace visited the Southern School of Pharmacy at Mercer University in Atlanta, Georgia.

After gathering data on possible clinical sites, Dr. Wiggins and Dr. Wallace visited the American Council on Pharamceutical Education in Chicago, Illinois, in May, 1984, where procedures for establishing a school of pharmacy and steps in gaining accreditation were discussed with Dr. Daniel A. Nona, Executive Director.

Dr. Wiggins and Dr. Wallace visited with Dr. Oliver M. Littlejohn, Vice President and Dean of the Southern School of Pharmacy in May, 1984, to discuss the possibility of serving as consultant and to conduct a feasibility study for the proposed Campbell University School of Pharmacy. President Wiggins toured the facilities of the Southern School of Pharmacy and talked with pharmacy faculty and personnel.

In July, 1984, Dr. Wallace visited with Dr. David R. Work, Executive Director of the North Carolina Board of Pharmacy, and confidential plans were shared with Dr. Work about the feasibility study.

Dr. Oliver Littlejohn visited the Buies Creek campus on September 12 and 13, 1984. After a very thorough investigation, Dr. Littlejohn endorsed the proposed Campbell University School of Pharmacy and urged President Wiggins to proceed with plans to begin the school.

Dr. Daniel Nona of the American Council on Pharmaceutical Education visited the Buies Creek campus on December 5 and 6, 1984, to review Dr. Littlejohn's findings, tour the campus, and establish, subject to a favorable report, procedures for insuring accreditation approval.

Dr. Wiggins and Dr. Wallace were invited to appear before the American Council on Pharmaceutical Education at the January, 1985, meeting in Charleston, South Carolina. Plans were shared about the proposed school and questions posed by the council were addressed by Dr. Wiggins and Dr. Wallace.

Dr. David Work, Executive Director of the North Carolina Board of Pharmacy, visited the Buies Creek campus on January 4, 1985. He was briefed on reports submitted by Dr. Littlejohn and Dr. Nona, and toured the proposed location for the school of pharmacy.

Plans to establish the Campbell University School of Pharmacy were announced to the council on Christian Higher Education of the General Board of the Baptist State Convention, in Raleigh, North Carolina, on January 28, 1985.

Dr. Littlejohn and Dr. Wallace visited with Dean Miya and Mr. Al Mebane the week of January 28, to share plans about the school of pharmacy.

Additional consultants who have visited the Buies Creek campus since January are:

February 27-28, 1985	Miss Barbara Hill, Librarian, Massachusetts School of Pharmacy and Allied Health Services, Boston, Massachusetts.
March 14-15, 1985	Dr. Henri Manasse, Jr., Dean, College of Pharmacy, University of Illinois at Chicago
March 20-22, 1985	Dr. Ron Maddox, Assistant to the Dean, Southern School of Pharmacy, Mercer University, Atlanta, Georgia

Fred M. Eckel and Celeste M. Lindley, discussion leaders in the CE program "Patient Education, State of the Art and Sources," presented at the Annual Convention. Photo by Colorcraft.

REPORT ON SCHOOL OF PHARMACY CAMPBELL UNIVERSITY BUIES CREEK, NORTH CAROLINA

By Oliver M. LittleJohn, Ph.D., R.PH.
Vice President, Mercer University, Atlanta, Georgia

presented at the North Carolina Pharmaceutical Association Convention, Raleigh, North Carolina, April 12, 1985

Mr. President, Mr. Mebane, Fellow Pharmacists and Friends. Good Afternoon. It is a pleasure to be with you to discuss America's newest pharmacy school. These past few months have been real exciting—working with many folk to bring a new pharmacy school into existence. It has been over thirty years since the youngest pharmacy school was founded. All of us in pharmacy will be proud of the Campbell University School of Pharmacy. I know all of you here in North Carolina are proud that your state will have two pharmacy schools. You already have a fine public school of pharmacy at the University of North Carolina at Chapel Hill. I have known and admired Dean Tom Miya for years. A school of pharmacy at a private university such as Campbell will strengthen and complement the public school at Chapel Hill.

Although the two schools will have somewhat different philosophies in educational programs, the end results will be the same—that is, to train well qualified practioners for the profession of pharmacy.

You are familiar with the Chapel Hill philosophy of a Five-Year Baccalaureate Degree; an "Add-on" or "Elective" Doctor of Pharmacy Degree program: A Masters and Doctorate Graduate program as well as an excellent research program.

Initially, at Campbell University only the Doctor of Pharmacy Degree will be offered. The charter class of 48 students must have completed at least two years of pre-pharmacy work before entering the four years of pharmacy school. A minimum of six years will be required to graduate. With 48 students per class a faculty of 22-25 members will be needed. Opportunities for research will be provided for both faculty and students. At present, there are no plans for graduate studies.

The undergraduate Doctor of Pharmacy is a professional degree which prepares the graduate to be:

1. Community Pharmacist
   a. Independent or Chain Store
2. Hospital Pharmacist
3. . . . All those other pharmacy positions which do not require a graduate Master's or Doctor's Degree.

Campbell University is dedicated to quality education. It is dedicated to training students in a Christian atmosphere, but its doors are open to all.

It is not easy to found a new school. Many questions must be answered. The first question to be answered is: What must be done in order to be accredited? To date, the Executive Director of the American Council on Pharmaceutical Education has visited the Buies Creek campus and President Wiggins and Provost Wallace have had a meeting with the full council at

(continued on page 14)

Photo by Colorcraft

their January meeting. All standards of the council will be met. Some of those standards are:

(1) **Facilities**—Adequate space is available in the present Science Building.

(2) **Library**—Adequate Library holdings or access to holdings is feasible and possible.

(3) **Clinical Sites**—North Carolina is blessed with excellent clinical facilities, especially in the Raleigh, Durham, and Fayetteville areas.

(4) **Dean and Faculty**—Already we have received over a dozen applications for Dean. Most are well qualified. Several applications for faculty positions have been received.

(5) **Students**—With only 48 students per class it is anticipated there will be no problems in recruiting well qualified students who desire the Doctor of Pharmacy Degree.

If everything continues to work as well as it has in the past few months we expect to admit the charter class of 48 students in August, 1986. If not then by August, 1987.

Since the State Association represents all of this profession we call pharmacy, we wanted you to know what is happening over at Buies Creek. Time will not allow me to give you all the details but we shall be glad to answer any questions you may have—but before we do this, I wish to thank all of you for this opportunity to speak at your convention.

OSCAR SMITH
PILOT MOUNTAIN PHARMACIST

At age seventy-one, and after major heart surgery this past January, Oscar Smith is taking a break.

He now serves on only six community service boards!

He is currently active on the boards of Surry Community College, Northern Hospital of Surry County, Workmen's Federal Savings and Loan, The Bank of Pilot Mountain, the First United Methodist Church of Pilot Mountain, and the High's Ice Cream Co.

He has faithfully served on each of these boards, with the exception of High's Ice Cream, for more than twenty years. He served on the board of Surry Community College before the college was even built and was the chairman of that board.

He has served on the board of The Bank of Pilot Mountain for over forty years, longer than any other board member.

And he is not only chairman of the board of the High's Ice Cream, but also in partnership with his son, Oscar Smith, Jr., in this newly formed company in Norfolk, VA.

He has also served on the County Board of Health and local and county school boards, with somewhere in the neighborhood of one hundred and twelve years of public service in all.

His service to the community is and always has been above and beyond duty, and he does it all with a smile. His wife, Betty Lou (Boaz) Smith, says he loves it.

"It gives him a sense of giving something special to the people," she says.

"Serving on all these boards was also an out from the drugstore for him," she comments.

The drugstore she mentions is, of course, Smith Drug, which he owned and operated for forty-three years. And, during those forty-three years, he never once missed a day of work due to illness. Oh, he took a week's vacation or two, here and there, but went right back to his twelve-hour days filling prescriptions, day and night.

"I got up at night for anyone that called," he said.

Smith started working in the drugstore on the corner on Main Street and Depot Street at age twelve. His cousin, Dr. J.M. Smith, and his son owned the store then.

"I started as an errand boy," recalls Smith, "and I made about fifty cents a day."

He worked for every owner after that. He worked for a Mr. Hollingsworth until he moved to Mount Airy. Then O.N. Swanson bought the building, fixed it up and hired a pharmacist from out of town to work there before selling out to Earl Driggers of Winston-Salem. Smith worked for Driggers for two or three years until he was old enough to go to pharmacy school himself.

"Born awful poor," Smith had to work as soon as he was able. He was the middle child of a family of nine children. When his father, Robert Emmett Smith, died at a young age, all of the children had to work when and where they could to help their mother, Esther, out.

Even before age twelve, when he started working at the drugstore, he used to "go out in the country to live and work on a farm." He recalls making $1 a day plus board for his efforts as a youngster, and "they'd bring me to town on Saturday, and then they'd come to get me again on Sunday."

So, when it came time for college, he had to make it on his own.

He spent one year at UNC-Chapel Hill where he paid $60 tuition (with assistance). He worked in the cafeteria for meals and carried in wood and coal for his room.

At night, he recalls, "I'd press my pants between the mattress and springs. Necessity's the mother of invention!"

When money and assistance ran out, his determination didn't. He had to leave UNC due to lack of money, so he packed up and headed for a pharmacy

(continued on page 16)

OSCAR SMITH

school in Atlanta, Georgia. He left with "two bags and $7 in my pocket – hitchhiking." He got to Greenville, S.C., the first day and got a room in a "run-down old hotel" for $1. He got to Atlanta the next day.

"Only time it ever took me two days to hitchhike to Atlanta," says Smith.

Within a week, he had a job waiting on tables at a local boarding house. He also got involved in selling "The Ladies Home Journal" and other magazines as well as hand-painted oil pictures which he sold for "one-dollar a picture. What they were really interested in was selling the frames," he recalls.

But he couldn't stay away from the pharmacy business and soon found himself a job in a local pharmacy. He worked from 5-10 p.m. every afternoon and went to school at the Southern College of Pharmacy in the daytime.

It was hard work, putting himself through school, but he values education. He's since helped educate his three children – Oscar, Jr.; Sue Ray Calmont; and Mary Elizabeth (Liz) Tilley; and his own younger brother.

"The only thing more expensive than an education," says Smith, "is ignorance."

In 1937, he graduated from The Southern College of Pharmacy (now a part of Mercer University). That same year, he bought the pharmacy on Main Street in Pilot Mountain. It was not an easy acquisition for someone fresh out of college, with little money or credit.

"Things were tight," he says.

And over the next forty-three years, he turned it into a thriving business. More than just a pharmacy, the store became a meeting place for just about everyone. The soda fountain inside and the benches outside seemed always to be full of people stopping to chat.

During this time, Smith was also the Greyhound Bus agent receiving a ticket for himself to go anywhere in the country.

"I was too busy to travel," he says. "But I got an award for being such a good agent."

In April 1962, Smith was inducted into the N.C Academy of Pharmacy in Raleigh. This was a great honor. Only those who accumulate ten thousand

points for public service and continuing education are induced into this prestigious academy.

To fill his spare time, Smith ran for Mayor of Pilot Mountain and was elected to four terms in the forties and fifties.

One thing he's proud of accomplishing during his administrations is the paving of the streets in Pilot Mountain.

"I remember when the town had no paved roads, just cobblestones," says Smith. "Sometimes the mud would get knee deep." So, during the next heavy rainfall, you can thank Oscar Smith for seeing to it that the roads were paved.

Who'd believe, with all these other activities, that he'd have time to actively pursue any hobbies. But he does. He is probably best known for his stamp collecting.

His stamp collection is a history in itself. It includes such rarities as inauguration day stamps signed by Jimmy and Rosalyn Carter and postmarked on inauguration day; Everette Dirkson stamps which were signed by Howard Baker and his wife (Dirkson's son-in-law) and post-marked on Reagan's inauguration day.

His favorite perhaps is a George Washington Carver stamp he sent to the Booker T. Washington post office to be postmarked on the first day open. When it came back, it had been signed by Booker T. Washington's granddaughter, the postmistress.

Besides his stamp collection, he's an avid reader, enjoys coin collecting and loves to play bridge.

In fact, he played bridge every Wednesday night for twenty-five years. He's rightfully proud of the time he bid and made a small slam with his opponents holding one hundred honors in trump. One evening, he and James Templeton, along with the late Dr. Henry Newsome and the late Henry Ridenhour, made two grand slams back to back. They discovered late that the odds of this happening again were one in eight million!

Smith says, "The rougher the tree when young, the tougher the tree when it's older."

And I guess he's living proof of that. He's one tough guy.

Commemorating the installation of the 1,000 QS/1 Pharmacy System at Bland's Drugs in Clarksburg, West Virginia are: (left to right) SDP President Glenn Hammett; store owners Ed Toompas, Bud Stanley, and Don Hutson; and QS/1 National Marketing Director Ken Couch.

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T.M.A. DONATES $2,000.00 TO LOAN FUND

At the April meeting of the T.M.A. Foundation, a contribution of $2,000.00 to the Consolidated Student Loan Fund was approved by the membership. This brings to $8,200.00 the amount contributed to the Fund by T.M.A. Foundation. These funds are used to provide interest-free loans to undergraduate pharmacy students to help with unexpected living and school expenses. Loans are limited to $300.00 a semester and the NCPhA is currently making over 125 such loans each school year.

DISTINGUISHED SERVICE AWARD PRESENTED

Steven R. Moore R.Ph., M.P.H., was presented the Distinguished Service Award by the Drug Information Association, an international professional society of drug information specialists, at their annual meeting in Atlanta. Moore is with the Division of Biopharmaceutics at the Food and Drug Administration in Rockville, Maryland.

Please correct the telephone number for FDA Commissioner Young in the Pharmacy Directory appearing in the April-May issue.

FOOD AND DRUG ADMINISTRATION
Dr. Frank E. Young, Commissioner
Parklawn Building
5600 Fisher Lane
Rockville, MD 20857
(301) 443-2410

BRAIN CHEMICAL COMPETES WITH TRANQUILIZERS, MAY BE NATURAL CAUSE OF ANXIETY IN HUMANS

What causes human anxiety?

An unusual and previously unknown chemical recently isolated from human and rat brains appears to reduce the efficiency of tranquilizing drugs in the brain. Researchers at the National Institute of Mental Health speculate that the chemical (which is still being analyzed) may be a natural cause of anxiety.

According to reports, the chemical is a peptide—a molecular similar to but smaller than a protein—consisting of 105 amino acids.

Benzodiazepine tranquilizers are known to reduce anxiety by attaching themselves to microscopic structures in the brain called benzodiazepine receptors. (The fit of drug to receptor is very precise, like a hand in a glove.)

The benzodiazepine receptors are, in turn, part of a larger system called the GABA (gamma-aminobutyric acid) receptor. GABA is a type of neruotransmitter, or brain chemical messenger, that apparently helps tranquilize by reducing the activity of certain nerve cells. Benzodiazepines have similar tranquilizing effects.

The new drug (called DBI, or diazepam-binding inhibitor) appears to lessen benzodiazepine effectiveness by binding to the same receptor and thus blocking the benzodiazine action. But while diazepam on the receptor reduces anxiety, DBI at the same location appears to increase it by diminishing GABA's effects.

The finding is doubly significant. It not only provides further evidence for the theory that more than one type of chemical can bind to a single type of receptor, but it could lead to important new information about how emotions are brought about and how they are affected by drugs.

DBI has been partially analyzed by breaking it down into its constituent amino acids; once the structure is fully known, it can be synthesized in the laboratory and examined further. It is already known that the molecule is quite large for a neurotransmitter. What remains to be determined is whether the entire molecule or only a fragment binds to the receptor.

A likely explanation is that it is broken down by body enzymes (proteins that catalyze chemical reactions) into smaller, very active fragments which then bind to the receptors. Such mechanisms are already known to exist in other families of body chemicals.

"A Brain Octadecaneuropeptide Generated by Tryptic Digestion of DBI Functions as a Proconflict Ligand of Benzodiazepine Recognition Sites," P. Ferrero et al., Laboratory of Preclinical Pharmacology, National Institute of Mental Health, Washington, D.C., Neuropharmacology, 23:11, November 1984, pp.1359–1362; also "Anxiety Peptide Found in Brain," Jean L. Marx, Editorial Staff, Science, 227:4689, February 22, 1985, p. 934.

Mary L. Jarrell, NCPhA Legislative Lobbyist, addressing the 105th Annual Convention, Raleigh.

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Correspondence Course
Advising Consumers on OTC Foot Care Products

by J. Richard Wuest, R.Ph., Pharm.D.
Professor of Clinical Pharmacy
University of Cincinnati, Cincinnati, Ohio and
Thomas A. Gossel, R.Ph., Ph.D.
Professor of Pharmacology and Toxicology
Ohio Northern University, Ada, Ohio

Goals

The goals of this lesson are to:

1. discuss the etiology and treatment of minor self-treatable disorders of the feet and toenails;
2. review the pharmacology and therapeutics of OTC remedies for these disorders.

Objectives

At the completion of this lesson, the successful participant will be able to:

1. choose the appropriate OTC agent for treating minor disorders of the feet and toenails;
2. explain the proper technique for applying these OTC agents;
3. know when to refer the consumer to a specialist when self-treatment is not appropriate.

Introduction

This lesson reviews relevant information on OTC foot care products. This includes corn and callus removers and ingrown toenail relief remedies. The related subject of nailbiting and thumbsucking deterrents is also discussed. While none of the conditions considered in this lesson causes serious pathology, each is commonplace. Also, the conditions may induce intense pain or cause needless embarrassment if allowed to go untreated. Another common affliction of the foot and nails, athlete's foot, was discussed in a previous lesson, "Self-Medication of Topical Fungal Infections."

What Are Corns and Calluses?

The cells that comprise the outermost layer of skin (i.e., stratum corneum) are generally replaced by a new layer of cells approximately once a month. The precise mechanism for this occurrence is dependent on the innermost layer of epidermal tissue that is constantly undergoing cell reproduction (mitotic division). These newly formed cells migrate from the lower levels, through the upper layers of skin, onward to the skin's surface at a rate that is approximately equal to the rate of shedding of the older cells on the surface.

Whenever there is constant pressure or friction against the skin, this rate of shedding increases. This leads to a faster cell reproduction rate at the innermost layer. This in turn, then, causes the stratum corneum to thicken, resulting in accumulations called corns and calluses. Once the friction or pressure is relieved, the cell's mitotic division rate is reduced. This results in eventual disappearance of the corn or callus tissue.

While both of these thickened growths of skin (hyperkeratoses) are similar in many ways, there are some differentiating factors.

As stated, both corns and calluses are abnormally thick areas of skin tissue. Both are caused by prolonged exposures to pressure or friction against the skin, and both can be painful. In time, both will disappear when the

in the service of pharmacy

This continuing education for Pharmacy article is provided through a grant from MERRELL DOW PHARMACEUTICALS INC.

(continued on page 26)

FOOT CARE

friction or pressure is relieved, and the cell reproduction rate returns to normal.

The major difference between corns and calluses is that corns have central cores with defined borders of thickened skin surrounding them, and calluses do not. A callus has an indefinite border edge that may range from several millimeters to several centimeters in diameter. Both are raised areas of tissue. Corns are normally yellowish-grey in color; their central cores are pointed inward. This presses against nerve endings in the skin to cause pain. Calluses most often have the same or slightly lighter coloration as normal skin, and they retain the usual pattern of skin ridges on their surfaces. Corns are more common on the outer edge of the little toe. Calluses may form anywhere.

Corns invariably form over a bony prominence, adding to their painfulness since there is less flexibility when additional pressure is applied. Calluses form on weight-bearing areas and may be located on the skin covering the joints in the feet or hands. Since they are usually formed to protect underlying tissue from constant friction, calluses are generally not overly uncomfortable. For this reason, there is some question as to whether calluses should be removed. If they are, it should be done with extreme caution since, in reality, a naturally developed protective mechanism is being removed. If the callus is cosmetically or psychologically disturbing to the individual, it is far better to remove its cause than to remove the callus.

The same concept is somewhat true for corns. Since corns usually result from ill-fitting shoes, the cause must be corrected or corns will invariably return. Shoes that are too tight or cause crowding of the toes must be replaced. Or it may be a rough seam or support within the shoe that is the cause. Such conditions may be readily corrected by a shoe repairman.

There is always the possibility that the affliction is actually a wart, cyst, or tumor. These disorders must be ruled out before self-medication is undertaken.

The FDA advisory panel that reviewed OTC corn and callus relievers differentiated corns into five categories: hard, soft, "O-corns", seed, and neurovascular corns (Table 1). The panel recommended that only hard corns should be considered to be self-treatable. Medical supervision is required for removal of the other four types.

TABLE 1
Types of Corns

1. Hard Corns: shiny and polished; occur on surface of toe joints; the most common form of corns.
2. Soft Corns: whitish; occur in the webs between the fourth and fifth toe; continually macerated due to sweat accumulation.
3. "O" Corns: hard rimmed but soft center; intermediate between soft and hard; occur anywhere around toes, usually very painful.
4. Seed Corns: tiny and compact; usually found with calluses on the sole of the foot; usually asymptomatic.
5. Neurovascular Corns: contain blood at the core and occasionally bleed; usually found on the side of the foot near the great toe; must be surgically removed since they don't respond to OTC treatment.

Bunions. Another type of foot problem, the bunion, is a swelling of one of the hollow chambers (bursa, pl:bursae) located around most bone joints. Although bursae are located throughout the body, only those of the foot are associated with bunions. The function of these bursae is to provide flexibility and some elasticity to the tissues surrounding the skeleton and its joints to allow for body movements.

The bursae, along with the great toe and the inner side of the foot, give the foot the mobility we need to walk. However, if there is a skeletal abnormality that causes an outward deviation of the great toe leading to prolonged pressure on the adjacent bursa, inflammation becomes covered by extensive overgrowth of keratin tissue, i.e., the bunion.

Bunions are invariably caused by improperly fitted shoes or abnormal foot structure. They may also result from improper stance or alteration in walking patterns. The advice of an orthopedist or podiatrist is necessary to

assure safe and effective treatment. Hopefully, bunions will be asymptomatic with properly fitted shoes, protective pads, or corrections in stance, but they can become swollen, tender, and painful. In some instances, surgical correction is needed.

We will not discuss bunions further in this lesson because there is currently no evidence that any OTC agent effectively treats them, other than providing mild relief of pain.

Treatment of Corns and Calluses

The medical treatment of a corn or callus will be unsuccessful unless its cause is discovered and eliminated. If the problem is due to ill-fitting shoes or hosiery, footwear must be carefully selected so that it is non-binding and distributes body weight evenly over the entire foot. If a corn or callus is caused by anatomical malformation, surgery may be required. In any instance, the goal is to alleviate the pressure and friction that is causing the excessive stratum corneum growth.

Since corns and calluses result from hyperkeratinous growth, topical treatment with keratolytic agents is beneficial. Several substances have been advocated through the years including salicylic acid, phenoxyacetic acid, and zinc chloride. Salicylic acid has demonstrated the greatest success rate. When it is properly used, it is also safe.

The effectiveness of salicylic acid as a corn/callus remover results from its keratolytic action. It loosens cells in the epidermis permitting their easy removal. The exact mechanism for this effect is not known, but it is postulated to result from lowering the pH of the area. This causes the epithelial cells to hydrate from accumulation of endogenous fluid; the cells then swell, soften, and shed.

Since moisture is essential for salicylic acid to work, it is beneficial to apply the acid to corns and calluses and then apply an occlusive cover. This can be accomplished with flexible collodion or a medicated disk, pad, or plaster (see Table 2 for the "official" definitions of these items). All of these measures will prevent moisture evaporation, assure contact of the medication to the affected area, and facilitate penetration of the active ingredients into the corn or callus. Soaking the foot in warm water for 15 to 30 minutes prior to application of salicylic acid also aids its keratolytic activity.

While salicylic acid is keratolytic in strengths as low as 3% (i.e., as in anti-acne remedies), the FDA OTC advisory panel has concluded that the proper concentrations for treating corns and calluses are 12 to 40% in medicated disks, pads, or plasters, and 12 to 17.6% in collodion vehicles.

TABLE 2
Definitions of Medicated Corn Remedies*

1. *Medicated Disk.* A topical medication, usually incorporated in a skin-contact adhesive base, carried on a fabric, plastic, or other suitable backing cut to the size and shape of the lesion to be treated.

2. *Medicated Pad.* A topical medication consisting of an appropriately-sized protective pad of fabric, plastic, or other suitable cushioning material in or on which the medication is carried.

3. *Medicated Plaster.* A topical medication, usually incorporated in a skin-contact adhesive base, spread upon a fabric, plastic, or other suitable backing.

*As published by the FDA Advisory Panel on OTC Corn and Callus Removers.

When recommending salicylic acid as a topically-applied solution in flexible collodion or impregnated into various commercially available medicated products, pharmacists should counsel patients on several important points.

Since the vehicle for collodion-based products is extremely volatile, the container must be kept tightly sealed between each use, and stored away from heat or flame. While safe for topical use, salicylic acid in collodion can be toxic when ingested. Thus, it should be kept out of the reach of children. To assure that salicylic acid does not damage healthy tissues, petroleum jelly (e.g., Vaseline™) can be applied around the corn or callus prior to application to keep the acid from destroying surrounding skin. Consumers should also be advised to carefully read, understand, and follow all label directions. *(continued on page 29)*

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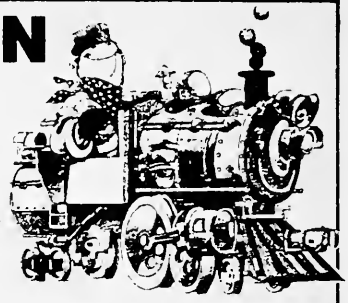

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FOOT CARE

Diabetics, because of circulation deficiencies, should obtain medical advice before initiating self-treatment with any OTC corn/callus reliever. Any person noticing excessive irritation, bleeding, infection, pus formation, or discomfort at the site of application should contact a physician before proceeding with unsupervised treatment.

Complete removal of all corn and callus tissue is not necessary to alleviate pain and discomfort. Therefore, when using an OTC salicylic acid-impregnated disk or plaster, application should be restricted to five treatments lasting over a period of 14 days or less. Prolonged use affords little extra benefit, and adds to potential toxicity problems. Table 3 lists the directions and warnings that the FDA panel has suggested for corn/callus relievers.

TABLE 3
Proposed Labeling for OTC Corn and Callus Removers

A. DIRECTIONS:

1. For active ingredients formulated in a collodion vehicle. "Cleanse feet thoroughly with soap. Soak in warm water for 15 to 30 minutes and dry feet thoroughly. Circle corn or callus with a ring of petrolatum to protect surrounding skin. Apply product one drop at a time to sufficiently cover each hard corn or callus; let dry. Repeat this procedure daily until the corn or callus is removed or partially removed to provide comfort. Do not use medication for more than 14 days."

2. For active ingredients formulated in a pad, plaster, or disk dosage form. "Cleanse feet thoroughly with soap. Soak in warm water for 15 to 30 minutes and dry feet thoroughly. Cut pad, plaster, or disk exactly to cover the corn or callus. Apply the pad, plaster, or disk. Remove pad, plaster, or disk after 48 hours and soak feet for 15 to 30 minutes. If the corn or callus is not soft enough to be removed, repeat the procedure. Do not exceed five treatments over a 14-day period."

B. WARNINGS:

1. "Do not use this product if you are a diabetic or have poor blood circulation because serious complications may result."

2. "Do not use on irritated skin or on any area that is infected or reddened."

3. "If discomfort persists, see your doctor."

4. "Care should be used to avoid contact of product with the skin surrounding corn or callus."

5. "Do not use this product on soft corns."

6. For any products containing collodion:
   a. "Highly flammable, keep away from fire or flame."
   b. "Store at room temperature away from heat."
   c. "Keep bottle tightly capped."
   d. "Avoid inhaling vapors."
   e. "If product gets into eyes, flush with water to remove film and continue to flush with water for 15 more minutes."

Phenoxyacetic Acid and Zinc Chloride. The review panel also reported that phenoxyacetic acid (phenoxyethanoic acid) and zinc chloride are safe for topical OTC use, but there is insufficient evidence to demonstrate their effectiveness for removing corns or calluses. The results of only two studies were available to the panel. While both studies claimed effectiveness for phenoxyacetic acid, there were some flaws (in the panel's opinion) in the experimental protocols. For example, the study submitted by the phenoxyacetic acid sponsor showed satisfactory results, but the panel felt that these results were open to question. It reported that the effectiveness of the product depended on the dexterity of the individual who removed the corn after treatment, the vigor with which the individual performed the task, and the subjective decision of the observer in deciding whether or not the core of

(continued on page 31)

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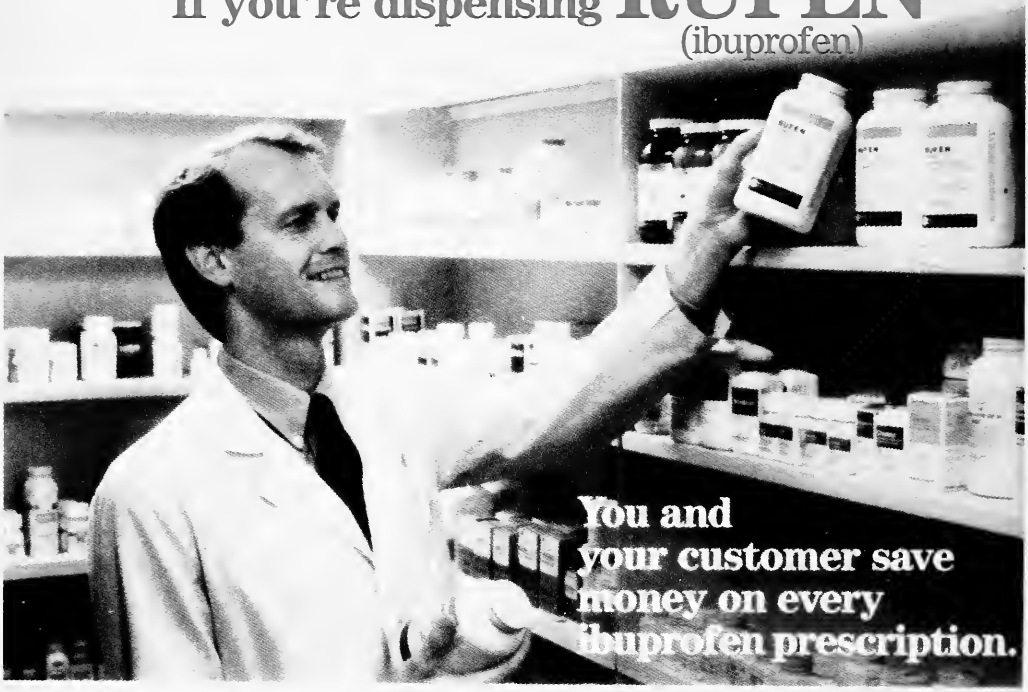

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the corn had been removed. What this basically means is that the manufacturers of corn remedies containing phenoxyacetic acid must perform additional studies to prove that this agent is effective without regard to any subjective contributing factors.

Zinc chloride was also ruled safe since it has been used for many years as a topical astringent, antibacterial, antiperspirant, and tooth desensitizer. Interestingly, it is not promoted as a single entity corn/callus reliever, but instead has been included as an active ingredient usually in combination with salicylic acid. To continue its marketing as an active ingredient, manufacturers must prove that zinc chloride adds to the action of salicylic acid. Otherwise, its listing as an active ingredient must cease.

Other agents were also reviewed by the panel and found to be either unsafe or ineffective for this indication (see Table 4).

TABLE 4
Substances Proposed to be Banned as OTC Corn and Callus Reliever Active Ingredients

Allantoin
Ascorbic acid
Belladonna
Chlorobutanol
Diperodon
Glacial acetic acid
Ichthammol
Iodine
Methylbenzethonium chloride
Methyl salicylate
Pantothenol
Phenyl salicylate
Vitamin A

Ingrown Toenails

Toenails protect the softer tissue at the ends of the toes. However, if the nail curves into the corner of the toe and becomes embedded in the surrounding tissue, pain and inflammation often occur. Untreated, the condition can progress to ulceration, widespread inflammation, granulation tissue (large masses of tissue formation), infection, and even septicemia (blood poisoning).

In actuality, the term "ingrown" toenail (onychocryptosis) is not absolutely correct to define the actual affliction. The nails do not "grow" into the toe. Instead, they become embedded in the tissue.

The best method for treating ingrown toenails is to avoid the most common cause, i.e., improper trimming. The correct method of trimming the nails is to cut them straight across without tapering the corner in any way (Figure 1).

Another causative factor is tight hosiery or shoes which force the lateral edge of the nail into the toe corner by direct pressure. Even tight bed covers on a bed-ridden person can cause ingrown toenails. Fungus infections can thicken the nails so they develop rough edges which are driven into the softer tissues as the individual walks. Ingrown toenails can also be hereditary; some families are more predisposed to them than others.

Treatment of Ingrown Toenails

The basis for self-treating ingrown toenails is to soften the nail and shrink the soft tissue of the toe in order to provide sufficient room for the nail to grow in its normal position. These effects must be provided until the nail resumes its normal growth pattern on top of the skin.

The FDA advisory panel considered four purported remedies for ingrown toenails: chloroxylenol, sodium sulfide, tannic acid, and urea. It found that there was insufficient evidence to prove that any of these ingredients are safe and effective for such use. The panel ruled, and FDA has agreed, that chloroxylenol and urea are not proper agents for OTC use on ingrown toenails. Therefore, it has been proposed that they be banned from future marketing as ingrown toenail remedies. (Table 5 lists currently available products).

TABLE 5
Ingredients in Representative OTC Ingrown Toenail Products

Products	Ingredients
Dr. Scholl's Onixol	Sodium sulfide
Nail-A-Caine	Tannic acid (benzocaine)
Outgro	Tannic acid

(continued on page 33)

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FOOT CARE

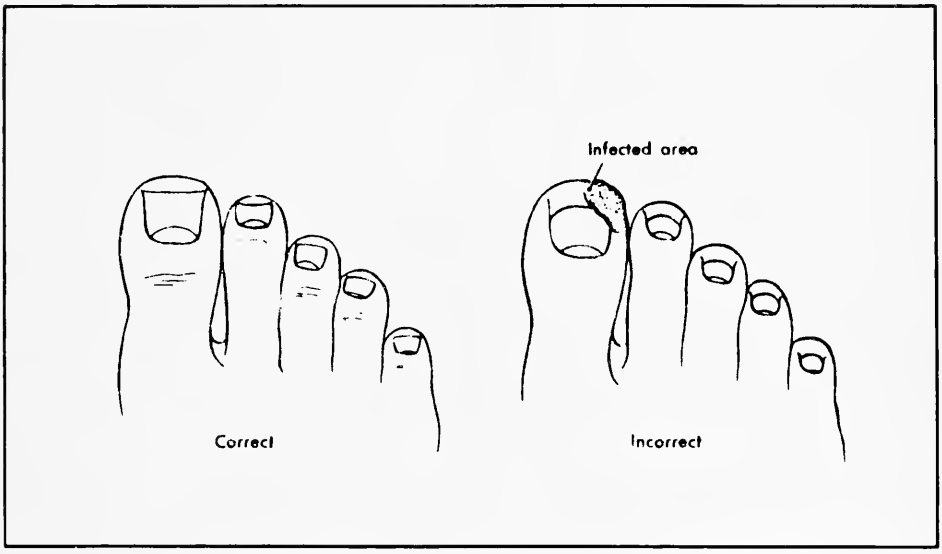

FIGURE 1. Proper nail care, showing the correct (left side) and incorrect (right side) methods for trimming the toenails.

With sodium sulfide and tannic acid, the panel concluded that there is some, but inconclusive evidence, that they are truly effective. It recommended that further studies be undertaken. In the meantime, these products may continue to be marketed. We will, therefore, briefly review their activity and important patient advice.

Sodium sulfide softens keratin in the toenail as well as that of the skin and surrounding tissue of the toe. This would theoretically provide relief from the pressure and pain caused by the embedded nail. As a side point, nail keratin is very similar to hair keratin; sodium sulfide has been successfully used as a depilatory (it is the major ingredient in many depilatory products) for nearly one hundred years.

Sodium sulfide was not given the official status of "effective" because there were some flaws in its sponsor's study. Without going into complete detail, the exact protocol for double-blind crossover studies was not followed and the results, therefore, were suspect as far as the FDA was concerned. However, it appears once the proper studies are completed, the agent will probably be ruled effective.

Tannic acid, on the other hand, is an astringent. Its proponents claim that when it is applied to the area of the ingrown toenail, tannic acid hardens the skin surrounding the embedded nail. This then allows sufficient room for its normal growth and position.

After reviewing all the data submitted to it, the FDA advisory panel concluded that there is insufficient evidence to show that tannic acid alone is effective in hardening the skin and shrinking the soft tissue surrounding ingrown toenails. It is necessary for controlled studies to be done showing the effect of tannic acid alone on the intact skin and soft tissue surrounding an ingrown toenail.

Patient Advice. Concerning patient advice, the important points are quite similar to those pertaining to corns, especially as they relate to diabetics and other patients with poor circulation.

There is a specific warning against application of these agents to broken skin and open sores because of the possibility of systemic absorption and toxic reactions. The panel also recommended that a warning to consult a doctor if symptoms of infection (i.e., redness or pus formation) are present because infections are not self-treatable.

The best method for applying ingrown toenail remedies is to first cleanse the area

(continued on page 34)

FOOT CARE

thoroughly. A small piece of cotton should then be placed in the affected nail groove. The cotton pledget should be saturated with the medication several times a day until nail discomfort is relieved. Ideally, the cotton should be replaced once a day. If there is no improvement after one week, the patient should contact a physician.

Nail-Related Problems

Another group of OTC's that is used for "nail-related" problems on the hands is nail-biting and thumbsucking deterrents.

It is felt that both of these activities are related to habit rather than some ingrained physiopathological disturbance of the involved person. Both afflictions are also reported to be quite common. Various studies show that nail-biting occurs in over 40% of children; nearly 50% of infants suck their thumbs. The habits diminish as the individuals age. Only 10% of adults bite their nails and thumbsucking generally stops spontaneously around age four.

Nail-biting is related more to nervousness than is thumbsucking, which is considered to be a meaningless, yet natural, habit in newborns. Many experts believe the act begins before birth and that thumb and finger suckers are not emotionally disturbed in any way.

Even though both are common and usually non-pathogenic, either can lead to problems if they are done excessively. In some cases, the nail is bitten back so far that the nail plate separates from the underlying tissue. In severe cases, they are bitten back to the point that the nail bed bulges beyond the nail plate, so inflammation and hyperkeratosis results. In either instance, open wounds can form making the fingertips quite susceptible to infections.

While it has been stated that nail-biting is more a habit than a pathological condition, there are some psychological factors involved. Absolute proof is lacking at this time, but there is good evidence that in some individuals nail-biting is a normal response to emotional stress, discomfort, psychological pressure, or maladjustment. In others, it is merely a means of providing oral gratification.

Several different types of treatment have been used to overcome nail-biting. It is relatively clear that the individual must be motivated to stop. A prime reason is the cosmetic

embarrassment of unsightly and jagged nails. Oftentimes merely reminding oneself of the unconscious habit is enough.

One way to successfully accomplish this is to apply a disagreeable tasting substance on the nails so that as soon as it touches the mouth and tongue, the sensation is repulsive enough to discontinue the practice. This is the premise for use of OTC nail-biting and thumbsucking deterrents.

As with nail-biting, if thumbsucking is excessive or extends beyond infancy, serious clinical problems can occur. Most of them relate to improper mouth and tooth formation. They include incomplete eruption of incisors, improper palate formation, crossbite, and malocclusion (improper bite). In extreme cases, abnormal respiration, swallowing, and speech have developed as have mouth breathing and deviated septums.

Ingredients. The two ingredients found in OTC nail-biting and thumbsucking deterrents are denatonium benzoate and sucrose octa-acetate. Don't let the "sucrose" portion of the name fool you. This substance, as well as the former one, imparts a very bitter taste. In fact, they are both the basis for denaturing alcohol, to make it unfit to drink.

The panel that reviewed them concluded that they are both safe for use as nail-biting and thumbsucking deterrents, and there is some evidence that they are effective. As is so often the case, however, controlled studies will be needed before either substance will be placed in the official "safe and effective" category. Until that time, they are listed in Category III.

The panel has recommended that, should they eventually be proven by adequate testing to be effective (all appearances are that they will be), their labeling should advise that they be used by persons aged four years and older. The panel was convinced that there is no need to deter thumbsucking in children under four. Other appropriate warnings include avoiding contact with the eyes, and if they contain prescription-grade shellac, "keeping them tightly closed and away from heat or flame."

Patient Advice. Patient advice is simple. Adults must want to stop biting their nails. If not, the likelihood of success with any OTC product is questionable. With thumbsuckers, most experts agree that up until age four, the problem should be ignored or the child be occasionally reminded to stop. After age four, a decision has to be made whether parental harassment or an OTC deterrent is best. If the thumbsucking deterrent is selected, the proper method is to apply it immediately following hand washing and at bedtime. Consumers should be strongly advised to avoid rubbing their eyes if an OTC product has been applied to the fingers. CE TEST ON PAGE 38

Smith Data Processing president, right, presents SDP's retiring vice-president of sales Frank Milstead with a plaque honoring Milstead's 33 years of service to the J. M. Smith Corporation.

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OWENS & MINOR, INC. ANNOUNCES PROMOTIONS

Richmond, Virginia... Owens & Minor, Inc. is pleased to announce the promotion of Hue Thomas III and Dennis C. Webb to Assistant Vice Presidents of the Corporation. Also, Mr. Webb has been promoted to Vice President of the Wholesale Drug Division and will continue to serve as Assistant General Manager of that Division. Mr. Thomas will continue as vice President and Assistant General Manager of the Medical/Surgical Division.

Mr. Thomas joined Owens & Minor, Inc. in 1970. Prior to moving to Richmond in the fall of 1984, he served as Branch Manager of the Company's Medical/Surgical distribution center in Atlanta, Georgia.

Mr. Webb joined the company in 1965. He served as Operations Manager of the Norfolk Wholesale Drug distribution center and Branch Manager of the Wilson, N.C., Wholesale Drug distribution center before moving to Richmond in January, 1985.

ALCO HEALTH SERVICES CORPORATION FILES INITIAL PUBLIC OFFERING

Alco Health Services Corporation, a subsidiary of Alco Standard Corporation, announced that it filed a registration statement today with the Securities and Exchange Commission for an initial public offering of 4,700,000 shares of Alco Health Services common stock. After completion of the proposed offering, Alco Standard's ownership of Alco Health Services will be reduced to approximately 60%.

Alco Health Services, one of the largest full-service wholesale distributors of pharmaceutical products in the United States, will use the net proceeds from the proposed offering primarily to replenish working capital retained by Alco Standard upon transfer of assets to Alco Health Services.

Kidder, Peabody & Co. Incorporated and Drexel Burnham Lambert Incorporated have been named managing underwriters of the offering. It is anticipated that the initial public offering price will be between $15 and $17 per share.

COUCH NAMED QS/1 DIRECTOR OF NATIONAL MARKETING

SPARTANBURG, SC—Ken Couch, R.Ph., has been named Director of National Marketing for Smith Data Processing's QS/1 Pharmacy Systems.

In his new role, Couch will be responsible for all sales and marketing for the company's QS/1 pharmacy computer system.

A former practicing pharmacist, Couch has 20 years experience in pharmacy. He joined Smith Data Processing's marketing staff in 1981.

He is the immediate past president of the South Carolina Pharmaceutical Association and currently serves on the board of directors of the Spartanburg Rotary. He is regional vice-president of the University of South Carolina Alumni Council.

QS/1 Pharmacy Systems are currently operating in over 1,000 pharmacies in the United States and Canada.

PLASTIC PRESCRIPTION BOTTLES FOR ORAL LIQUIDS

USP has received a number of inquiries from pharmacists regarding the safety, legality, and suitability of utilizing the empty plastic bottles being marketed for dispensing liquid preparations pursuant to prescription. Please be advised that USP has no information from any manufacturer concerning the chemical characteristics of its containers, and is not aware of the results of any stability testing of particular drug products in these containers.

In view of the fact that there are many formulations of pharmaceuticals on the market with different solvents and concentrations which might theoretically extract plasticizers, etc., from the plastic, or conversely, show a loss of potency, color, flavor, etc., through sorption by some types of plastic, USP cannot recommend use of these containers by dispensers until additionalinformation is known. We caution pharmacists utilizing these containers as substitutes for glass to carefully consider the characteristics of the products they are dispensing.

Joseph G. Valentino, J.D.
Executive Associate
USP

CORRESPONDENCE COURSE QUIZ

Foot Care

1. The agent that is currently approved for use as a safe and effective OTC corn/callus reliever is:
   a. flexible collodion
   b. phenoxyacetic acid
   c. salicylic acid
   d. zinc chloride
2. Constant friction on the skin will lead to all of the following **EXCEPT:**
   a. faster cell reproduction
   b. hyperkeratosis
   c. increased cell shedding
   d. thinner stratum corneum
3. The best method for preventing corns from recurring is to:
   a. correct the cause
   b. cut away the corn from the center outward
   c. apply an OTC product containing glacial acetic acid
   d. cut away the corn from the outside inward
4. The type of treatment for bunions that has demonstrated the **LEAST** evidence of effectiveness is:
   a. correction in stance
   b. OTC remedies
   c. properly fitted shoes
   d. protective foot pads
5. Which of the following is considered to be the LEAST effective method for treating ingrown toenails?
   a. Hardening the skin surrounding the embedded nail.
   b. Shrinking the soft tissue of the toe.
   c. Softening the toenail.
   d. Trimmning the nail by tapering the corners.
6. All of the following statements are true **EXCEPT:**
   a. complete removal of the corn tissue is needed for the relief of pain.
   b. diabetics should obtain medical advice before self-medicating with OTC corn relievers.
   c. petrolatum should be applied around the area of a corn prior to applying a keratolytic agent.
   d. it is best to limit the number of applications of corn relievers to five treatments over a period of 2 weeks or less.
7. Human epidermal cells are constantly replaced by a process called:
   a. deoxyribonucleic acid cleavage
   b. keratolytic replacement
   c. mitotic division
   d. reticuloendothelial cytosis
8. The type of corn that is considered by the FDA advisory panel to be self-treatable is:
   a. soft corns
   b. hard corns
   c. O-corns
   d. A-corns
9. The benefit of salicylic acid in treating corns/calluses is due to its:
   a. ability to correct the cause
   b. anesthetic activity
   c. keratolytic action
   d. protectant properties
10. For salicylic acid to be optimally effective in treating corns, the affected area must be:
    a. dry
    b. moist
11. The two ingredients that are used in nail-biting and thumbsucking deterrents are:
    a. denatonium benzoate and sucrose octaacetate
    b. phenoxyacetic acid and zinc chloride
    c. salicylic acid and flexible collodion
    d. sodium sulfide and tannic acid
12. The major difference between a corn and a callus is that:
    a. calluses have definite border edges, corns do not
    b. calluses should always be removed, corns should not
    c. corns occur on the feet and toes, calluses do not
    d. corns have a central core, calluses do not
13. The type of corn that is shiny and polished, and occurs most commonly on the surface of toe joints best describes a:
    a. hard corn
    b. seed corn
    c. soft corn
    d. neurovascular corn

14. All of the following are true statements **EXCEPT:**
    a. continued nail-biting can lead to inflammation, hyperkeratosis and open wounds.
    b. nail-biting is known to be a psychopathologic condition requiring professional consultation.
    c. in order to overcome nail-biting, the individual must be motivated to stop.
    d. the premise for OTC nail-biting deterrents is to use a repulsive tasting substance to remind the individual not to do it.
15. The occlusion provided by medicated disks, pads, and plasters, or collodion-containing corn relievers serves all of the following functions **EXCEPT:**
    a. assuring contact of the medication with the affected area.
    b. facilitating the penetration of the active ingredient into the corn.
    c. keeping the corn area dry.
    d. preventing moisture from evaporating.

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Evaluation ☐ Excellent ☐ Good ☐ Fair ☐ Poor

How long did it take you to read the article and compelete the exam?_____

NEW VIDEO PRESENTATION FOCUSES ON LOOMING SHORTAGE OF PHARMACISTS

The National Association of Chain Drug Stores and A.H. Robins Company today announced the release of "Rx for the Future," intended to sensitize practicing pharmacists to a looming shortage of pharmacists in the United States.

Citing a 20 percent decline in pharmacy school enrollments since 1978, the 17-minute video cassette presentation points out that young people today are less interested in health care careers than previous generations and are pursuing other interests.

Largely overlooked by young people, the presentation notes, is the fact that pharmacy remains a highly-respected profession whose new and developing roles in community and institutional practice, research, education, government and industry offer opportunities unheard of less than a decade ago.

In a low-key, instructive manner, the presentation demonstrates how pharmacists may talk to high school and college students and encourage them to make pharmacy their career. The tape depicts two students interacting with a community pharmacist, asking questions, expressing their feelings about the profession and ultimately deciding the pharmacy is the profession for them.

"Rx for the Future" is available for use by pharmacy organizations throughout the country. Inquiries should be made to the National Association of Chain Drug Stores, P.O. Box 1417-D49, Alexandria, VA 22313; A.H. Robins Company, Manager of Professional Relations, 1407 Cummings Drive, Richmond, VA 23220; or any college of pharmacy or state pharmaceutical association.

The presentation was produced through a grant from A.H. Robins.

TO PHI DELTA CHI ALUMNI

At a meeting of the Board of Directors, Alumni and active members, a decision was made to return to professional status. The fraternity will rush and initiate pharmacy students only. The active membership is updating the alumni mailing list and needs your help. Please mail your current address to:

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SRD ADDS ALTHOS COMPUTERS

Systems Research and Development Corporation (SRD), of Research Triangle Park, N.C., is proud to announce the addition of the Altos line of computers to its family of COMPUTASCRIPT hardware, The Pharmacy Management System.

COMPUTASCRIPT is probably the most flexible pharmacy software on the market today. COMPUTASCRIPT currently runs on Altos, Pixel, IBM PC/XT, IBM AT, Wang PC, Victor, Televideo, and Prime computers. COMPUTASCRIPT will also run on computers such as NCR, Seiko, and some Radio Shack models, plus most other popular business computers. The Altos addition allows COMPUTASCRIPT to offer systems with multi-user and multitasking capabilities, 20 megabytes of storage, and complete prescription processing software at an economical price.

All Altos computers are compatible, and capable of running multiple terminals and multiple store locations. The Altos computer line offers pharmacists easy system growth and the ability to network multiple computers. The Altos computer offers more speed, flexibility, expandability and growth than single-user, PC-based systems. COMPUTASCRIPT has already been installed on Altos computers in numerous pharmacies in North Carolina, Georgia, and Florida.

THE RITE OF THE ROSES

Conducted by NCPhA Third Vice President and Mrs. W. Keith Elmore at the 1985 Convention

Each year the Rite of the Roses is conducted in rememberance of our friends and fellow Association members who have passed on since last we met in convention assembled. In this act of remembering, let us consider this verse from John White Chadwick's poem "Auld Lang Syne:"

"Tis hard to take the burden up,
When these have laid it down;
They brightened all the joy of life,
They softened every frown;

But oh Tis good to think of them,
When we are troubled sore!
Thanks be to God that such have been,
Though they are here no more."

THOSE REMEMBERED

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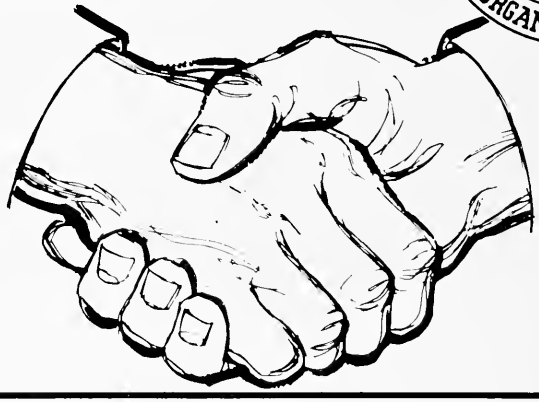

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DEATHS

DOROTHY LASSITER McALLISTER

Dorothy L. McAllister, 74, died Thursday, July 11 at Durham County General Hospital following an extended illness. She was the daughter of Mrs. Mava Lassiter, a long-time resident of Durham and a niece of Trela D. Collins, former pastor of Temple Baptist Church in Durham. Mrs. McAllister graduated from Roosevelt Hospital Nursing School in New York City where she also attended Columbia University. During World War II, she operated the treatment room in Woollen Gymnasium for the UNC Athletic Association. Prior to her retirement in 1976, she served for 23 years as Office Manager for the North Carolina Board of Pharmacy.

She is survived by her husband Harmon C. McAllister, three sons, Harmon McAllister Jr., Birmingham, Michigan, John McAllister, Tucson, Arizona and William McAllister of Durham, as well as two grandsons, Shawn and Mark McAllister of Birmingham, MI, and a niece, Susan Leete of Chapel Hill.

She was a member of the Chapel of the Cross Episcopal Church of Chapel Hill where a memorial service was be held Saturday, July 13, at 1 PM.

The family requests that in lieu of flowers, memorial donations be made to the Thompson Children's Home, Box 25129, Charlotte, NC 28229.

MARRIAGES

KATHLEEN M. WOODELL (formerly Rollins) married Donald F. Fontis, stock broker with E.F. Hutton, on June 8, 1985. Kathleen graduated from the University of North Carolina School of Pharmacy in 1972; currently working at Durham Drug Co. in Durham.

The couple lives with Don's two sons Kelly, 9, and Randall, 10, in Raleigh.

SHARON ROSE WILLIAMS and Paul Steven Perry, both of Dunn, were married June 28 at Ladies Parlor of First Baptist Church.

The bride is a graduate of Campbell University and the University of North Carolina at Chapel Hill School of Pharmacy. She is a pharmacist at Kerr Drugs. The bridegroom is a graduate of the University of South Carolina and he is manager of the Dunn store of Perry Brothers Tire Service. The couple will live in Dunn.

CLASSIFIED ADVERTISING

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Pharmacy Position Available: Reynolds Health Center, 741 N. Highland Avenue, Winston-Salem, NC 27101. John Quick—Chief Pharmacist. Hours are 8:00 a.m. to 5:00 p.m., Mon. thru Fri. 2 hours on duty every 3rd Saturday. No night work ever required. All holidays. Salary starts at $24,000, with full benefits. Call Mr. Quick for details, (919) 727-8216. This a County-Funded Health Center to serve Forsyth County patients.

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Duke Medical Center Staff Pharmacist Position. Rotating Shifts (Days and evenings). Every other weekend, decentralized Pharmacy Department, All Clinical Services, 40 hours/week, 3 weeks paid vacation, 12 paid holidays, 12 days annual sick leave, $25,000 per year starting salary. Salary Negotiable Based on Hospital Experience. Contact: Steve Dedrick, Asst. Director, Duke Medical Center Pharmacy, P. O. Box 3089, Durham, NC 27710, (919) 681-2414.

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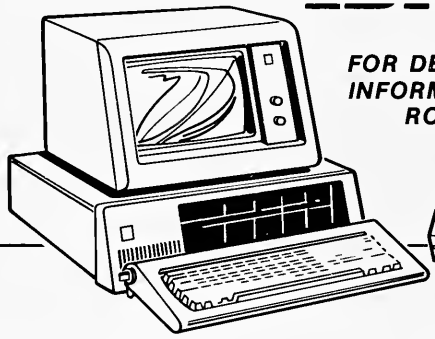

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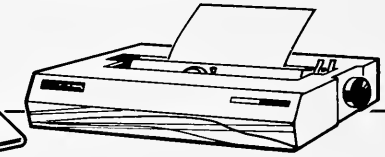

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THE CAROLINA
JOURNAL of PHARMACY

(USPS 091-280)

DECEMBER 1985 VOLUME 65 NUMBER 12

CONTENTS

ADVERTISERS

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REVCO PHARMACIST OF THE YEAR

A Commitment to People

Albert Lockamy, Jr., (Raleigh, North Carolina), was honored as Revco's Pharmacist of the Year at the Revco Management Seminar/Trade Show held in Cleveland in May.

What makes working as a Revco pharmacist-manager rewarding for Al, and what makes him successful at Revco? A number of factors that he has built into his own personal philosophy. Probably the two most important are his ability to work with others, and dedication to providing his customers with high quality service. In other words, working with *people.*

Al Lockamy

Managing Employees Effectively

Al supervises a number of clerks and a front manager, and says one of the keys to being an effective manager is "motivating employees by offering encouragement and recognition for a job well done." A good manager should also possess the following qualities, according to Al:

- organizational skills
- the ability to determine priorities
- communications skills
- managerial knowledge
- and the ability to be authoritative without being dictatorial.

Offering Good Customer Service

Another reason behind Al's success is his positive attitude toward serving his customers. As a Revco pharmacist, he gains a great deal of satisfaction from helping others — through patient counseling, comparative shopping, and advising on Revco private label products.

He enjoys dealing directly with patients coming in to have prescriptions filled. "Because the public is more informed than ever before and because more legend drugs are becoming O-T-C, there is an increased need for patient counseling by the pharmacist," he explains.

His advice on customer service isn't limited to the prescription customer. He feels strongly about "customer acknowledgement" — letting customers know, through his attitude, their importance to him. And he encourages his store employees to *always* treat customers with the utmost respect.

Stressing proper merchandising techniques is also important to the successful operation of a store, he adds. This includes proper ordering techniques (which insures the customer's wants are available), proper rotation of stock (assuring freshness and eliminating waste due to expired merchandise), correct pricing, and merchandising promotional ends to encourage related sales.

He also stresses advance planning (since time limitations are always present), delegation to capable employees, flexibility, and staying knowledgeable about current Revco policies and procedures which help him run a more effective store.

Working at Revco

Al enjoys the challenge of being both a pharmacist *and* store manager. "The aspect I like best about working for Revco is our management structure where the pharmacist can also be manager of the entire store. This allows more opportunity to interact with my front manager, clerks and area supervisor, and facilitates a closer working relationship among *all* employees. It also enables me to keep abreast of current changes in 'out-front' merchandise so I am able to advise customers needing help with O-T-C products for self-medication."

Henry Williams, Al's area supervisor, feels that much of Al's success is due to the excellent rapport he maintains with the store employees he supervises, and the continual emphasis he places on customer relations. "In his daily duties, Al always puts the *customer* first," Williams said.

Professional Activities

Al is an active member of the following professional organizations: American Pharmaceutical Association, National Association of Retail Druggists, North Carolina Pharmaceutical Association, North Carolina Association of Professions, and Wake Pharmaceutical Association. He also is an honorary member of the North Carolina Academy of Pharmacy and a Life Member of the University of North Carolina Alumni Association. He is active in a number of state professional activities and was elected the second Vice-President of the North Carolina Pharmaceutical Association for 1986-87.

An exciting event will be occurring this October for Al and for all of us at Revco. The author of *People's Pharmacy*, Joe Graedon, invited Al to be his guest on an open line radio talk show during National Pharmacy Week.

Al's involvement in community service has included activities such as being a Pharmacy Career Day speaker and a Pharmacy alumni speaker, making presentations to senior citizens groups on generic drugs, doing a radio commercial during Poison Prevention Week, acting as a Consulting Pharmacist for an Alcoholism Treatment Center, and presenting programs on Drug Abuse and Prevention to Junior and Senior High School students. As a popular member of the health care community, when area organizations heard of Al's award as Revco's Pharmacist of the Year, he was innundated with congratulatory letters.

A Personal Note

For Al, pharmacy was a natural career choice. In high school, he enjoyed "working with and helping people" and his favorite subject was science, especially chemistry. Pharmacy offered him the opportunity to utilize both.

Al began his career with Revco in September of 1971 as an Assistant Store Manager in Rockingham, North Carolina. When store #1198 opened in August of 1972, he was transferred and has been the manager there ever since.

In 1970 he met his wife, Ginger (a part-time Revco pharmacist), at the pharmacy where they were both employed. They have two children: Virginia Lee (Ginny), 7, and Elizabeth Lee ("E"), 2. One thing he does find difficult is finding enough time to spend with his family. But, he helps make up for this by spending "quality time" with them, like taking small vacations together and visiting local museums and zoos. Besides family outings, Al enjoys gourmet cooking, traveling, and reading.

The Future

Al's goals for the future are both personal and professional. They include maintaining a high quality and level of business while faced with an ever competitive market, and to be "the best pharmacist I can be, by adapting to the demands of the company and the needs of the customer."

CAMPBELL TO ENROLL STUDENTS

The Campbell University School of Pharmacy will begin immediately to admit students to the charter class which will be enrolled in August 1986, according to an announcement made by Norman A. Wiggins, president of Campbell University.

The decision to enroll the charter class results from the recent appointment of Dr. Ronald W. Maddox as dean of the School of Pharmacy, favorable reeports filed by the consultants who have visited the Buies Creek campus, the recent approval of the American Council on Pharmaceutical Education to seek pre-candidate status, and the feasibility of locating the School of Pharmacy in the Leslie H. Campbel Hall of Science.

In commenting on the August 1986 opening date, Dr. Wiggins said, "We are pleased with the progress which allows us to open the School of Pharmacy in 1986, which is the beginning of our centennial year at Campbell University. The addition of the School of Pharmacy to the university and make a great contribution to the health and welfare of North Carolina and the nation. We believe that Dr. Jerry Wallace, our provost, ably assisted by Dr. Oliver Littlejohn, our consultant, has built our program on a sound foundation that will pay rich dividends to the pharmacy profession and the work of the university.

The charter class will be composed of fifty students which are expected to come from North Carolina, neighboring states and some foreign countries served by missionaries of the Southern Baptist Convention.

Persons interested in enrolling for the August 1986 class should contact the Director of Admissions at the Buies Creek campus.

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CONSIDERATIONS FOR BOARDS OF PHARMACY

David R. Work

NABP-AACP DISTRICT III MEETING

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One can, of course, examine a document such as the Final Report of the Task Force on Pharmacy Education and find many worthwhile comments — some positive, some negative and a few lateral in nature. Among the positive notes is the impressive 25 page section on references and bibliography which is evidence of the vast array of sources examined and used as underpinning for this document. Other generally positive statements found are the recommendations that curriculum should be reviewed and that curricula experimentation, innovation and flexibility be allowed.

Some items, however, evoke controversy and have begun to receive the discussion they attract. For example, one recommendation is that "curriculum should contain an externship and a clerkship of such quality and quantity to serve *in lieu of the internship requirements.*" While some Boards of Pharmacy have effectively abandoned the internship requirement or let it go to the colleges and universities by default it is my observation that the overwhelming majority of Boards are unwilling to release their rights and responsibilities in this area without *demonstrated* interest in the everyday practice of pharmacy on the part of the large majority of faculty.

(There is a saying among politicians that perception is reality. For example, it is common to hear that republicans are against Social Security and for big business while democrats are charged with being soft on communism and big spenders. While these charges may not be true they are used in political encounters and if the public *perceives* these charges to be accurate they believe them regardless of whether any individual candidate might deserve the label. In order to shed these labels perceived by the public it is often necessary for candidates to "overprove" their concerns in these areas. The same might be said of pharmacy faculty when it comes to the everyday practice of our profession. For so many years it has been perceived by the everyday practitioner that the college faculty either do not understand or do not care about pharmacy practice that "overproving" their concerns may be necessary.)

Perhaps the most commonly discussed recommendation is the evolution of the six year Pharm.D. as the the sole entry level for the practice of pharmacy. Most of the attention which has developed around this phrase up to this point surrounds the additional educational component necessary, the different academic designation and the perceived threat of this development on pharmacists who hold only a bachelor's degree. Anyone who has attended an NABP meeting in the last three years recognizes the exceptional amount of heat and smoke with very little light generated by this topic. Other comments within the section on the professional practice degree which are curious are two references to the B.S. degree. In one case the authors concede that students should have the option of acquiring a B.S. in pharmacy science or pharmacy technology on the way to completion of the Pharm.D. degree. In another paragraph it is stated that the B.S. entry level should not be abandoned until and if future developments so warrant. These phrases produce, almost by reflex, the question of "What good would a B.S. in pharmacy science or pharmacy technology be if the Pharm.D. is the sole entry level?" A more intriguing question also arises when one queries "What developments warrant abandonment of the B.S. degree?"

Curious logic also occurs later in the section on professional practice degree (note the order of occurence here) that if the decision is made to move to the six year Pharm.D. degree then a study should be made to establish the superiority of the six year degree. What we see here is an unabashed declaration of #1 making a decision and #2 then looking for the evidence to support that decision.

It is all too easy to forget that boards of Pharmacy exists to protect the public health, safety and welfare. Boards function in this respect by determining candidate competency through

(Continued on page 8)

(Continued from page 7)

the NABPLEX examination and other exams. In order to justify promotion or even acceptance of the Pharm.D. by Boards in lieu of the B.S. degree, there needs to be an assessment of performance by holders of Pharm.D. and B.S. degrees. One method of comparing graduates of B.S./ Pharm.D. programs has been suggested by the NABP Committee on Education which would involve comparing NABPLEX scores for B.S. and Pharm.D. candidates. It is my understanding that NABP staff is now investigating the possibility of developing this information and it should be interesting.

As a person trained in law I have learned that when experienced people write for a publication they are usually quite careful and ordinarily mean precisely what they say. Under these circumstances I am more than concerned about the phraseology in the recommendation regarding the professional practical degree. In the executive summary the phraseology is "the Task Force recommends that the six year Pharm.D. evolve as the desired goal with the intent that it become the sole entry level for the practice of pharmacy." In the section of the report captioned the Professional Degree there is somewhat more wording when "the Task Force recommends that a six year professional degree with an enhanced professional competency evolve as the desired goal with the intent that it become the sole entry level for the practice of pharmacy." At the present time the academic degree serves as the major criteria for entry into the licensure exam but it is *the Boards of Pharmacy* that determine competency and determine when a person enters practice and is a pharamacist. If one goes back and re-reads each phrase it is then clear that the Task Force did not intend the Pharm.D. *Degree* to be the sole *degree* but it is intended that the degree, in and of itself, is sufficient to practice pharmacy and licensure by Boards would be surplusage. This conclusion is further supported by the additional reference in the body of the report to "enhance professional competency" which is now adjudicated by the licensing boards.

If this is indeed the message contained within this report then we had all best take notice.

In an unrestrained burst of common sense the Task Force also states that the external Pharm.D. degree issue cries out for resolution, certainly more than one school, college or university can develop a program and make it available to the hospital and community pharmacists in a time and manner susceptible to completion. The additional knowledge and/or skill cannot be so ephemeral that it can only be conveyed to those who have forsaken job, home and perhaps family for life in a teaching medical center. Over and over again studies have shown that one of the primary problems faced by the pharmacy profession is an available avenue of upward mobility. Indeed in some institutions or perhaps corporations the possession of an advanced degree is the sine qua non for promotion. Without the reasonable availability of a Pharm.D. degree, holders of B.S. degrees will be relegated to second class status through no fault of their own.

The only viable alternative I can see for resolving this situation is to learn from the lawyers and do as the law schools did in the 1960's when bachelor's of law degrees (LL.B.'s) were deemed equivalent to J.D. degrees. A virtually identical procedure could occur in pharmacy with the bachelors of science degree deemed equivalent to the Pharm.D. degree, with the exchange of one for the other. Statistics developed in the performance study of B.S./Pharm.D. candidates on the NABPLEX exam might be significant in this respect. As to the length of time, whether it is five years or six years or more I believe it is the most appropriate course of action to allow the free market forces to work and obtain strength thru diversity. In that way the most efficient system would be available through competition while providing numerous choices for potential students.

In searching the literature pertaining to the switch from the LL.B. to the J.D. degree there are numerous quotations that could be just as easily attributed to the B.S./Pharm.D. discussion. Phrases such as "first professional degree" and discussions about confusing first professional degrees with advanced degrees (J.D. v J.S.D.; Pharm.D. v Ph.D.) and whether or not it is a graduate or undergraduate degree. For those of you on campuses with colleges of law and a law library you may wish to have the citations for several interesting articles. They are the Juris Doctor, The Journal Of Legal Education, J.W. Stein, 15:315, 1962-63, P. 315; Report of the Special Committee on Graduate Instruction, Association of American Law Schools Proceedings, 1963, P. 154 and J.D. or LL.B. As The Basic Law Degree?, Cleveland Marshall Law Review 12:573, S, '63, Marcus Schoenfeld. For those of you who are interested, the Schoenfeld article particularly has a thorough and interesting description of the use of various degrees which have occurred in the interim and the semantic problems which result when applying the language forms of prior hierarchy to the present scheme.

Jack Schlegel was right, in my opinion, when shortly after taking office he said that pharmacists want peace in their profession and they shall have it. In this case I see nothing wrong with the movement to Pharm.D. degree but if the educators cannot find a way to make an external degree reasonable and attainable for practicing pharmacists, then, in order to keep peace in this profession, I believe it will be necessary to provide Pharm.D. degrees for holders of B.S. certificates. While this may be an unpleasant quid pro quo for many educators it is at this point where they can make a moral judgment to see if, considering the entire situation, the ends justify the means.

We need to resolve this issue soon and move on to other matters such as effective teaching and rewarding research for colleges and better public protection on the part of Boards.

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CORRESPONDENCE COURSE

COUNSELING CONSUMERS ON PSORIASIS AND ITS TREATMENT WITH OTC REMEDIES

by Thomas A. Gossell, R.Ph., Ph.D.
Professor of Pharmacology and Toxicology
Ohio Northern University, Ada, OH
and
J. Richard Wuest, R.Ph., Pharm.D.
Professor of Clinical Pharmacy
University of Cincinnati, Cincinnati, OH

GOALS

The goals of this lesson are to:
1. discuss the etiology and treatment of psoriasis;
2. review the pharmacology and therapeutics of OTC products used to treat it;
3. distinguish psoriasis from other disorders that produce similar symptoms.

OBJECTIVES

At the completion of the lesson, the successful participant will be able to:
1. choose the appropriate OTC agent for treating psoriasis;
2. explain the proper technique for applying it;
3. decide when the patient should be referred to a specialist.

One to three percent of Americans are reportedly afflicted with psoriasis. Based on the total population of the U.S., this might not be considered a large number of people. However, to those individuals who must contend with the "heartbreak of psoriasis," it is an extremely serious disorder. Visible plaques on the scalp, face, hands, or arms, or more widely spread over the body may cause them to avoid contact with the public and become virtual recluses.

Many OTC products effectively control the symptoms of psoriasis. as do several drugs that require a prescription (e.g., methotrexate, methoxsalen, anthralin). Pharmacists often interact with those patients who seek relief from their symptoms.

There are two other conditions that appear similar to psoriasis — seborrheic dermatitis and severe dandruff. Both cause symptoms that may be easily confused with psoriasis.

This month's lesson examines psoriasis from the standpoint of identifying important aggravating factors and major symptoms, and discussing rational treatment with OTC remedies. Specific attention is directed toward distinguishing psoriasis from other disorders that produce similar symptoms. Advice for consumers who purchase OTC remedies for treating psoriasis is also presented.

BACKGROUND SYMPTOMS

The biblical term "lepra" described a series of skin diseases that included the disorder we now call psoriasis. The association was common until the 1840's when the term was abandoned in describing psoriasis. One wonders how many people had experienced psoriasis, and because of their lesions, were needlessly shunned as being "unclean" by friends and family who believed they were lepers.

The disorder is, fortunately, relatively uncommon in America. However, the incidence on one to three percent may be a low estimation because many persons with mild conditions self-treat their symptoms without the benefit of medical advice.

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This continuing education for Pharmacy article is provided through a grant from MERRELL DOW PHARMACEUTICALS INC.

Psoriasis is a chronic inflammatory condition of the skin, characterized by well-defined pink or dull red lesions that have distinctive borders. These are covered with thick silvery-colored scales. If these scales are removed, they become powdery and the underlying skin may bleed in numerous spots. This phenomenon is referred to as **Auspit's sign**. While some sufferers exhibit constant scaling associated with itching and discomfort, others may experience variable periods of remission. Chronic itching is the most characteristic symptom, noted in over eighty percent of patients.

Psoriatic persons frequently have a greater than normal intolerance to cold weather. This is due to increased vasodilation and capillary proliferation which promotes a more rapid than normal loss of body heat.

Psoriasis is mainly a disease of Caucasians; ninety-eight percent of all sufferers are Caucasian. Both men and women experience it to the same extent. Psoriasis may manifest as a single lesion confined to an elbow or the scalp, or it may be found all over the body. (Figure 1).

Psoriasis shows no prevalence to socio-economic class or education. It is lightly more common in the northeast and north central states. Psoriatic lesions most commonly appear around age 30, but may emerge within the first year of life or not until old age. The condition is not contagious.

The term *psoriasis vulgaris* describes a condition resulting from lesions that coalesce into large, usually symmetrical areas. These are most commonly seen on the elbows, knees and lower back.

ETIOLOGY

Psoriasis is characterized by alterations in the epidermis, which lead to rapid turnover of cells, along with swelling of the underlying capillaries. Recall that the skin is composed of two major layers, the dermis and epidermis. The dermis (lower layer) contains a rich vascular system which supplies nutrients to all layers of the skin. The epidermis ("epi" = outer), in turn, is

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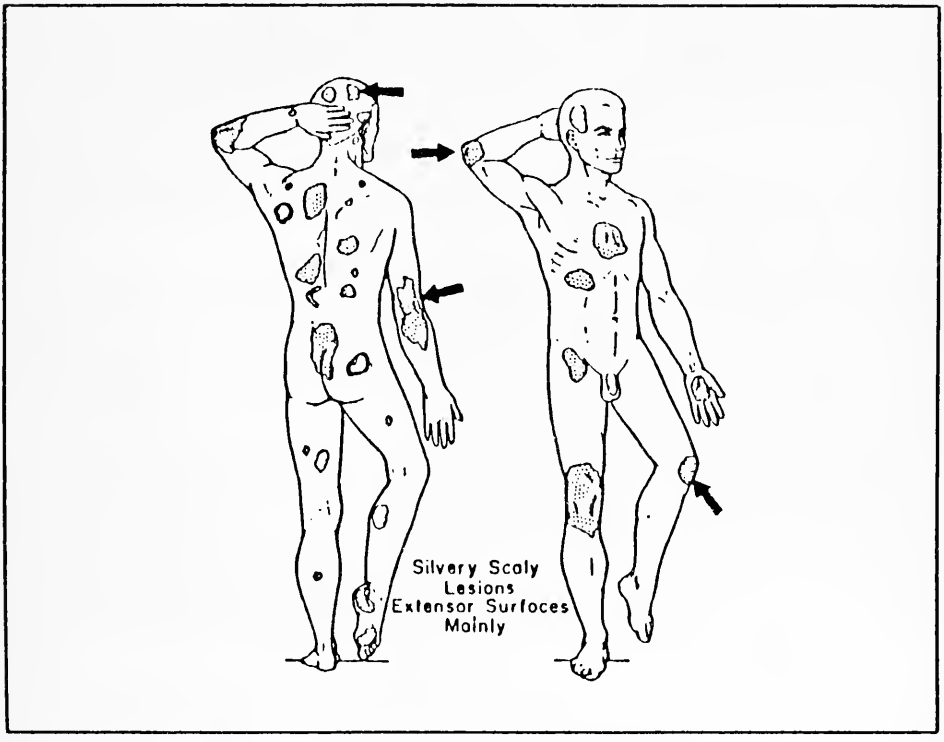

Figure 1. Distribution of psoriatic lesions. From: Sauer GC: *Manual of Skin Diseases* 3rd Ed, J.B. Lippincott Company, 1973.

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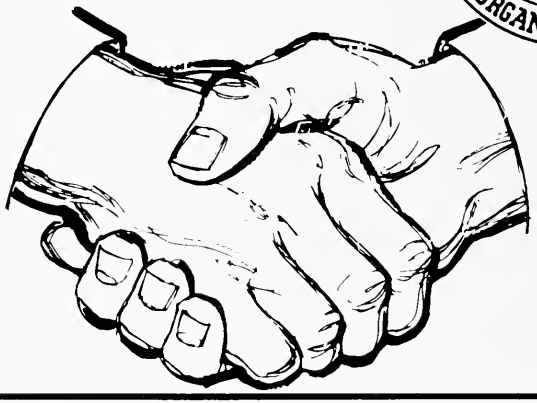

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(Continued from page 13)

comprised of two major strata, neither of which has its own blood supply. The basal (lower) level of the epidermis lies directly on top of the dermis, and is well provided with all its nutritional needs from fluids that diffuse upward from the dermis.

The cells that comprise the epidermis are continually formed at the basal level. Young cells migrate upward toward the skin's surface. Because there is insufficient nutrition to sustain their life, they die approaching the surface and dehydrate. These highly compacted, dead, dried cells are collectively known as the keratin (stratum corneum) layer. With normal skin "wear and tear," replacement cells from underneath push upward and the outermost dead epithelial cells continually slough off. This process ordinarily requires three to four weeks for completion. In psoriatic conditions, however, this turnover rate changes to three or four days. As a result, both live and dead cells accumulate on the skin's surface to form the thickened, scaly patches that have the characteristic silvery appearance.

Recent research into the condition has shown that psoriasis is genetic. A familial pattern is evidenced in approximately 30 percent of all patients. Genetic susceptibility does not mean that psoriasis will automatically occur in the offspring of affected persons. For example, the condition is more likely to appear in both members of a set of identical twins than in both members of a fraternal pair. If one parent has psoriasis, the children have a twenty-five percent greater chance of developing it. If both parents are affected, the probability increases to sixty-five percent.

An alteration in the immune system also seems to play an important contributory role. For example, IgG levels can be detected in the skin of psoriatic lesions. IgG is the most important of the immunoglobins (antibodies) that are responsible for combatting infection and invasion by foreign protein material. One theory suggests that the individual loses his suppressant action on the immune system, and antibodies then form against skin antigens. This allows for formation of antigen-antibody complexes, a leukocyte response, and eventually the inflammatory lesions characteristic of psoriasis.

Numerous other theories have also been advanced as possible causes of the disorder. However, no single hypothesis explains all ramifications. At this time, the precise cause or causes remains unknown.

TABLE 1
Factors Reported to Provoke Psoriasis Attacks

Dermal lesions (e.g., cuts, burns, sunburns)
Internal streptococcal infections
Sore throat
Drugs (e.g., antimalarials, lithium salts, beta-adrenergic blockers, clonidine, potassium iodide, gold compounds)
Endocrine (e.g., psoriasis often clears during pregnancy, and flares up in menopause)
Obesity
Emotional stress
Alcoholism
Sunlight* and weather extremes
Low humidity

*Exposure to moderate amounts of sunlight is associated with improvement of psoriasis. Too much exposure or sunburn is associated with psoriatic flare-ups.

Aggravating Factors. Factors have been identified as possible causes of exacerbation of psoriasis are listed in Table I. A distinguishing features of psoriasis is the **Koebner reation.** Briefly, this phenomenon involves the appearance of lesions at sites of dermal injury. Most injury is physical (e.g., cuts, scratches, acute sunburn), but any other injury may also elicit a psoriatic response. The relationship between trauma and subsequent appearance of lesions is not clear. Most lesions appear within three to eighteen days of the initial trauma. Therefore, it is important that psoriatic patients avoid injury or trauma to their skin.

Scratching or picking at scales should be avoided or at least minimized. Use of adhesive tape should also be avoided. If it must be used, application should be done carefully and judiciously since its removal may stimulate a psoriatic lesion.

One thousand psoriatic sufferers responded to a questionnaire that requested information about the factors that made their conditions better or worse. Seventy-seven percent indicated that hot weather improved their condition, while twenty-three percent said it worsened it. Twelve percent indicated that cold weather made their condition worse.

Endocrine factors appear to play a role in inducing psoriatic flare-ups. Psoriasis often improves or worsens during pregnancy. It may

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recur or appear for the first time after childbirth. Emotional stress frequently aggravates psoriasis.

Throat infections as such are not known to cause psoriasis. However, an interesting note is that half the patients in a large study of persons who had developed psoriasis during childhood, had also suffered from a streptococcal infection that caused a sore throat immediately prior to the onset of their condition.

DISTINGUISHING PSORIASIS FROM OTHER AFFLICTIONS

The symptoms of psoriasis can be easily confused with those of seborrheic dermatitis or severe dandruff. However, there are certain features of each disorder that allow for reliable differentiation (Table 2).

Diagnosing psoriasis is aided further by examining the fingernails and toenails. In persons with psoriasis, the hyperproliferation of nail beds, abnormal growth of nail plates, and accumulated keratin under the nails produce distorted, thick, opaque, and crumbly nails. Pits and ridges in the nails are often seen. Separation of the free end of the nail from its bed becomes marked, and indeed, the nail may be completely lost. These nail changes are noted in about half of all psoriasis sufferers. While not a definitive indication of psoriasis, nail changes is one of several characteristics that help in differential diagnosis.

TREATMENT

There is a variety of OTC products that may be used by persons with psoriasis, but there is no specific cure for the disorder. The products are intended to reduce its severity and control the symptoms. Because the barrier which normally prevents drug penetration into the skin is disrupted, psoriatic skin may be more permeable than normal skin to many medications. In the early stages of treatment, the patients may, therefore, respond rapidly to a topically-applied agent. The improvement rate then slows as the

TABLE 2
Distinguishing Features of Dandruff, Seborrhea and Psoriasis

Characteristic	Dandruff	Seborrheic Dermatitis	Psoriasis
Site	Scalp	Scalp, face and body (especially hairy areas, body folds, and behind ears.)	Scalp and body (especially knees, elbows, low back, nails)
Borders	Indistinct	Indistinct	Very sharp
Inflammation	No	Yes	Yes
Appearance of scales	Dry, grayish-white	Greasy	Silvery scales which flake off in layers
Age of onset	Puberty	Puberty	Young adulthood, as a rule, but can occur at any age
Itching	Variable	Usual	Variable
External factors that worsen condition	Cold weather	Stress, poor health	Stress, mechanical irritation. Also see Table 1
Rate of epidermal turnover	2X above the norm	More than 2X above the norm	Greatly increased above the norm (10-20X)
Duration	Can persist for life, diminishing in middle and old age	Can persist for life, frequent exacerbations and remissions	Can persist for life; exacerbations and remissions

skin's barrier approaches the normal state. Such improvement is hindered, however, by the itching and discomfort which are more intense when the skin is rough, dry and thick. Psoriatic individuals have a difficult time ignoring the itching and overcoming the impulse to scratch the lesions.

The ingredients contained in OTC products that were suggested by an FDA OTC advisory panel as being safe and effective for treating psoriasis are listed in Table 3. The panel advised that only mild cases of psoriasis should be self-treated, and that individuals affected with recalcitrant psoriatic lesions or those occurring over large areas of their body should be referred to a physician for treatment.

TABLE 3
Safe and Effective OTC Ingredients for Treating Psoriasis*

Coal Tar Preparations (coal tar, coal tar distillate, coal tar extract, coal tar solution, crude coal tar extract, crude tar extract, extract of coal tar, extract of coal tar solution, liquor carbonis detergens, refined extract of coal tar, solubilized coal tar extract, solubilized crude coal tar, standardized extract of coal tar, standardized tar extract)

Salicylic Acid

* ingredients classifed in Category I by FDA's Advisory Review Panel on OTC Miscellaneous External Drug Products

The panel specifically noted that treatment of psoriasis requires a form of therapy different than that for dandruff or seborrhea. However, if the condition is not accurately diagnosed and anti-dandruff or anti-seborrhea therapy is used, no harm is likely to follow. The psoriasis will probably persist, but it will not worsen. However, the consumer is wasting both time and money.

Coal Tar Preparations. Various products containing coal tar derivatives have been used to treat psoriasis for over a century. Today, they account for the largest share of the OTC psoriasis remedies sold in the U.S. — a market value reported to exceed $100 million each year.

Several different sources of tar have been used in previous years. Today, however, the most widely used tar preparations for controlling psoriasis (as well as dandruff and seborrheic dermatitis) are those derived from coal tar. It has not been shown that tars from various sources make a difference in the therapeutic activity of the final product. In fact, there is still little agreement as to the actual composition of coal tar.

To complicate matters further, manufacturers have attempted to refine it into more cosmetically acceptable fractionates, distillates, solutions, filtrates and tinctures. They have reduced its disagreeable physical properties even more by compounding coal tar products into shampoos, gels, lotions, bath oils and liniments. Any one of these processes may modify both the therapeutic activity and safety profiles of coal tar. Thus, the final product is probably qualitatively and

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quantitatively different from other products that contain coal tar prepared by alternate means.

Coal tar is believed to act as a cytostatic agent, i.e., it inhibits cell reproduction. Or, it may act as a keratolytic, penetrating the epidermis and helping to remove the scales produced in psoriasis. Its action may even be as simple as providing antisepsis through its phenolic content. The exact mode of action is not yet known.

Consumers should be reminded that coal tar preparations may stain clothing, skin and hair (especially gray, blond, or bleached). Coal tar imparts a characteristic odor so it should be thoroughly washed out before going out in public.

Coal tar is suspected of being carcinogenic and, indeed, chronic exposure to coal tar derivatives over several decades has been shown to be linked to cancer. The FDA advisory panel concluded that coal tar correctly applied to the scalp for treating dandruff was present on the skin for such a short period of time (e.g., five to twenty minutes maximum, one to three times weekly), that it was safe for short term self-administration for dandruff control. However, since a drug product applied to the body to treat psoriasis and seborrhea may remain in contact with the skin for longer periods, additional studies to clarify coal tar's carcinogenic potential are needed before a final ruling can be made. The panel recommended that coal tar products remain available OTC while these studies are underway. Representative coal tar-containing products are listed in Table 4.

Keratolytics. Only salicylic acid was approved by the advisory panel as a safe and effective OTC antipsoriatic keratolytic agent. The panel believed that keratolytics act by dissolving the cement that holds epidermal cells together, rather than dissolving keratin itself. Keratolytics loosen the scales, enabling them to be gently rubbed free and washed off more readily. The exact mechanism for this action is not known, but it is thought to result from

TABLE 4
Representative OTC Products for Relief of Psoriasis

Product	Dosage Forms						
	Bath Additive	Cream	Gel	Lotion	Ointment	Shampoo	Soap
Alphosyl		x		x			
Balnetar	x						
Cutar	x						
Denorex			x	x		x	
DHS Tar						x	
Doak	x			x	x		
Duplex T						x	
Estar			x				
Iocon						x	
Lavatar	x						
Neutrogena/T						x	
Oxipor				x			
Packer's Pine Tar						x	x
Pentrax Tar						x	
Polytar	x					x	
Pragmatar					x		
Psorex						x	
Psor Gel			x				
Tarlene				x			
Tegrin		x		x		x	
Tersa-Tar						x	
Zetar	x					x	

lowering the pH in the area. This causes the epidermal cells to become hydrated from accumulation of endogenous fluid. The scales swell, soften and shed. Keratolytics do not prevent the scales from being formed.

Sulfur and resorcinol, two keratolytics approved for other skin conditions such as acne, are *not* indicated for treating psoriasis. They were, therefore, not reviewed by the advisory panel. Both substances may remain on the OTC market indicated for their other uses.

Corticosteroids. Corticosteroids possess mild anti-itching action, but have a more marked anti-inflammatory effect. Hydrocortisone products, therefore, have been suggested for OTC use in treating dandruff, seborrheic dermatitis, and psoriasis of the body and scalp along with many other uses (see "Counseling Consumers on Dermatitis and Its Treatment"). While the OTC advisory panel that reviewed it agreed that topical hydrocortisone was safe, it also believed that the temporary relief of itching does not effectively "control" any of these conditions. Effective treatment should involve control of the excessive shedding of epidermal cells. The panel, therefore, recommended that corticosteroids need additional study to show proof of effectiveness.

On the prescription side of the ledger, the fluorinated corticosteroids are widely used and quite effective in ameliorating a wide variety of dermatological conditions in many patients. However, because of their greater potential for systemic side effects (fluorinated steroids are much more readily absorbed than hydrocortisone), especially when the skin occluded after application, their use requires physician supervision.

Emollients and Moisturizers. Bathing each day for thirty minutes with an oil emollient usually affords the psoriatic person symptomatic relief from itching and dry skin. Bath water

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should be comfortably warm but not too hot. Bathing with an emollient also softens the skin and helps remove the thick scales so that subsequently applied medications can more easily penetrate the skin. Furthermore, removing these scales with a washcloth improves the individual's physical appearance and mental attitude. It also reduces the victim's temptation to pick them off, an activity associated with bleeding and secondary infection. Representative OTC emollient bath additives are listed in Table 5.

Other products that contain moisturizing agents which help the skin to preserve moisture are used between bathings. Like emollient bathing products, these products help relieve itching and remove scales. The key word here is *emollient.* Simply bathing in plain water can potentially worsen the condition because water can dry the skin. Keratin does need moisture, but some other substance (i.e., an emollient) is needed to slightly occlude the area and hold the water on the skin.

TABLE 5
Representative OTC Emollient Bath Additives

Alpha Keri
Aveeno Colloidal Oatmeal
Aveeno Oilated
Bath-O-Vel
DOB
Domol
Jer-Bath
Kerasol
Lubath
LubraSol
Nutraderm
NutraSpa
Pedi-Bath
RoBathol
Ultra-Derm

CE TEST ON

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Hazel Post

Local Scouter Receives Highest Training

At a recent Saura District Boy Scout Leader's Roundtable, Hazel Post of Reidsville was presented the very coveted "Wood Badge" Award in recognition of her completion of Scouting's most extensive training course.

In the summer of 1984, Hazel attended a Wood Badge Training Course at Camp Raven Knob near Mt. Airy, North Carolina. While there, she was trained in Scouting's twelve skills of leadership, as well as traditional Scoutcraft skills. At the end of the week long training course, she contracted with herself to do a number of things when she returned. She chaired the Saura District Merit Badge College in February as well as doing several other tasks while serving as Saura District Commissioner.

Currently, Hazel serves as the Cherokee Council Assistant Commissioner. She is also the Assistant District Commissioner in Rockingham County, as well as a member of the Saura District Committee. She is co-owner of Rockingham Center Pharmacy and is President of Rockingham County Society of Pharmacists. She and her husband, Bill are members of St. Thomas Episcopal Church in Reidsville.

CATAWBA COUNTY

The Catawba County Society of Pharmacists has changed its name. As of October 20, 1985, meeting, the group is now called The Catawba Valley Society of Pharmacists in order to reflect the membership's growing base.

Also on the agenda was the election of officers for 1986. Outgoing officers were as follows:
PRESIDENT: Billy Price — Conover Drugs
FIRST VICE PRESIDENT: Paul Walker — Cornwell Drugs
SECOND VICE PRESIDENT: Charles Carpenter — Maiden Pharmacy
TREASURER: John Robert (Bob) Busbee — Busbee's Pharmacy
SECRETARY: Sara Boss-Isenhour — Cornwell Drugs

The newly elected officers are as follows:
PRESIDENT: Paul Walker — Cornwell Drugs
FIRST VICE PRESIDENT: Phil Ikard — Town and Country Drugs
SECOND VICE PRESIDENT: Gary Oakley — Frye Regional Medical Center
TREASURER: Annette Aman Collette — Eckerd Drugs
SECRETARY: Sara Boss-Isenhour — Cornwell Drugs

Giving the program entitled "Dermatology: Production Selection and Patient Counceling" was Timothy Ives, Clinical Assistant Professor at UNC-CH Schoolof Pharmacy.

The next meeting is scheduled for January 19, 1986.

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September 5, 1985

Honorable James T. Broyhill
Subcommittee on Oversight and Investigations
2340 Rayburn House Office Building
Washington, D.C. 20515

Dear Mr. Broyhill:

As President of the North Carolina Pharmaceutical Association, I applaud the current investigations relating to counterfeit and diverted drugs in the American market. Such practices are often injurious to the public health and create an unhealthy climate for competition in retail pharmacy.

Hidden in the smoke of the various reports I have read is the real catalyst for the drug diversion market, the discriminatory pricing of pharmaceuticals to hospitals at prices far less than to retail (both independent and chain) pharmacies by drug manufacturers. These lower prices to the hospitals are generally offered to both *for-profit* and *non-profit* hospitals and, thus, are neither just for charity cases nor the public good. It is simply a way for drug manufacturers to assure their drugs' market share in institutions while, I believe, exacting a tremendous financial burden on the retail paying public. Just look at the price differentials your investigations has revealed! It is no wonder that the secondary drug diversion market has evolved.

Until drug manufacturers cease their discriminatory pricing practices, those taxpaying Americans purchasing drugs at retail will continue to pay higher costs. Until discriminatory prices to non-profit (ex. HMO's) that *do not* serve "charity cases" is abolished, further erosion of the retail market will occur at the expense of taxpaying pharmacists. And, of course, the factors causing the diversion market will be with us until discriminatory pricing is stopped.

This has been *the* major problem that retail pharmacy has faced in the competitive health care market for the fifteen years I have practiced. Why can't retail pharmacies, when purchasing these drugs in quantities equal to hospitals, be assured they will pay a competitive price? We would certainly see a moderation of drug prices at retail pharmacies, benefiting not only the general public, but government programs such as Medicaid and Champus.

The pharmacists of North Carolina appreciate your support of us in Congress and I hope you will do whatever possible to attack this major factor causing the diversion market, and unfair competition — discriminatory pricing.

Sincerely,
North Carolina Pharmaceutical Association
H. Shelton Brown, Jr., R.Ph.
President

MARRIAGES

BETTIE CARRINGTON WILEY and Steven Robert Olson were united in marriage on Saturday, August 24, 1985 at noon in the White Memorial Presbyterian Church, Raleigh. The Reverend H. Edwin Pickard and the Reverend Tim O'Connor officiated the double ring ceremony.

A graduate of the University of North Carolina at Chapel Hill's School of Pharmacy, the bride is a pharmacist with Kerr Drugs in Durham. The bridegroom, a graduate of the University of New York at Albany, is currently a fourth year medical student at the UNC School of Medicine, Chapel Hill. The couple will live in Carrboro.

CATHERINE SUSAN KILIAN of Raleigh and Bryan Clenon Barnes of Rocky Mount were married Saturday, September 14, 1985 in St. John's Episcopal Church.

The bride, a graduate of the University of North Carolina School of Pharmacy, is a pharmacist at Revco Drug Stores. The bridegroom is also a graduate of the UNC-CH School of Pharmacy and works as a pharmacist at Revco Drug Stores. The couple live in Wilson.

BIRTHS

LANCE and PEGGY FOX, High Point, NC, announce the birth of their daughter, Megan Christina Fox on July 7, 1985. Mr. & Mrs. Fox are both graduates of the University of North Carolina at Chapel Hill School of Pharmacy (Lance, 1977, Peggy Morgan 1978).

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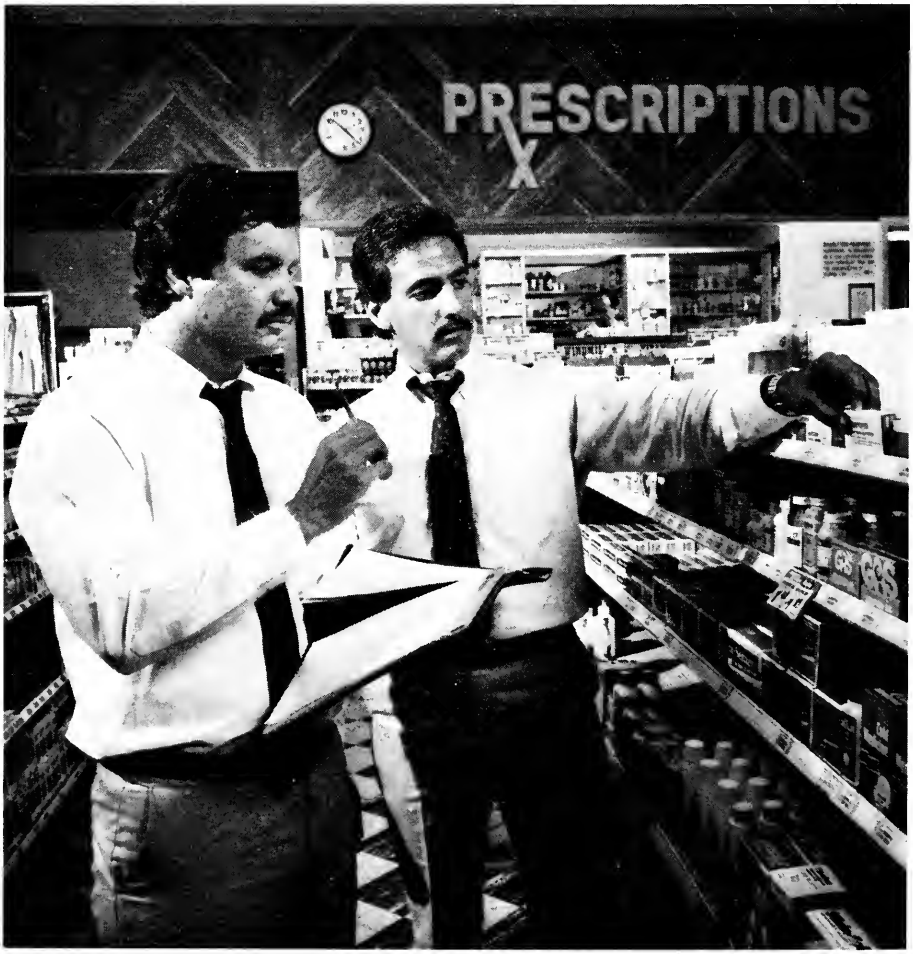

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LAWRENCE PHARMACEUTICALS, INC.	Michael Snavely	1815 Dunleith Way, Greensboro, NC 27408
LEDERLE	Cheryl Cox Kornegay	201 Pineview Drive, Erwin, NC 28339
LOVELCE ASSOCIATES	L.R. Lovelace	3442 Brymoor Road, Roanoke, VA 24018
MAYRAND INC. PHARM.	Rudy L. Snow	18 Woods Drive, P.O. Box 246, Granite Falls, NC 28630
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MCKESSON DRUG CO.	R.L. Blythe	P.O. Box 9587, Charlotte, NC 28299
MCKESSON DRUG CO.	Phillip G. Davis	Rt. 1, Box 156, Rockingham, NC 28379
MCKESSON DRUG CO.	Charles W. Haigler	4052 Avalon Ave., Charlotte, NC 28208
MCKESSON DRUG CO.	Dale Jordan	7708 Plott Road, Charlotte, NC 28215
MCKESSON DRUG CO.	Joel McConnell	P.O. Box 495, Cornelius, NC 28031
MCKESSON DRUG CO.	Joe E. Myers, Jr.	113 Forestdale Dr., Greensboro, NC 27403
MCKESSON DRUG CO.	Curtis Sell	304 Ralph Dr., Cary, NC 27511
MCKESSON DRUG CO.	F.E. Thompson	204 Park Shore West, Columbia, SC 29204
MCKESSON DRUG CO.	Dennis W. Trask	2120 Commerce Drive, Cayce, SC 29033
MCNEIL PHARMACEUTICALS	William A. Travis	1444 Dallas Circle, SW, Marietta, GA 30064
MERCK SHARP & DOHME	Ben T. Alexander	3716 Corbin St., Raleigh, NC 27612

Merck Sharp & Dohme	Katherine J. Havel	P.O. Box 31767, Raleigh, NC 27622
Merck Sharp & Dohme	David Lee	Chinkapin Place, Raleigh, NC 27612
Merck Sharp & Dohme	D.W. Miller	14 Post Oak Road E., Durham, NC 27705
Merrell-Dow Pharmaceuticals	Lori Boggs	1300 West C St., Kannapolis, NC 28081
Merrell-Dow Pharmaceuticals	Larry Horton	2408-C North Main St., Anderson, SC 29621
Merrell-Dow Pharmaceuticals	James R. Koch	1723 Downing Street, Greensboro, NC 27410
Merrell-Dow Pharmaceuticals	George H. Ross	4678 Jefferson Township Lane, Marietta, GA 30066
Merrell-Dow Pharmaceuticals	Walter A. Wardlaw	4870 Dorset Road, Winston Salem, NC 27107
N.C. Mutual Wholesale Drug Co.	Craig Ashton	Rt. 5, 205 Bolder Bluff Trail, Chapel Hill, NC 27514
N.C. Mutual Wholesale Drug Co.	R. Wayne Garrett	2204 Albany St., Durham, NC 27705
N.C. Mutual Wholesale Drug Co.	Preston Hall	P.O. Box 411, Durham, NC 27702
N.C. Mutual Wholesale Drug Co.	W.V. O'Quinn	2805 E. Geer St., Durham, NC 27704
N.C. Mutual Wholesale Drug Co.	Ralph P. Rogers, Jr.	P.O. Box 411, Durham, NC 27702
N.C. Mutual Wholesale Drug Co.	D.E. Tilley	2702 Cooksbury Dr., Durham, NC 27704
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Owens & Minor, Inc.	Bob Bunn	2523 McNair St., Wilson, NC 27893
Owens & Minor, Inc.	Frank Fife	c/o Owens & Minor, Inc., 2727 Enterprise Parkway, Richmond, VA 23229
Owens & Minor, Inc.	Ray Howell	3500 Westridge Circle Dr., Rocky Mount, NC 27801
Owens & Minor, Inc.	Katrina Little	301-F Park Ave., Wilson, NC 27893
Owens & Minor, Inc.	Paul W. Mangano	Owens & Minor, Inc., 2728 Enterprise Parkway, Richmond, VA 23229
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Parke-Davis & Co.	James L. Holloway	Rt. 3, Box 334AA, Wilmington, NC 28403

Continued on page 30

Pharmvite Corp.	Norman Russ Adams	8209 Strawberry Lane, Matthews, NC 28105
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Prof. Sales Representative	Sam H. Wehbie	2201 Yorkgate Dr., Raleigh, NC 27612
Research Triangle Software	J. Grey Hall	7200 Bolero Court, Raleigh, NC 27609
Rita-Ann Distributors	Ann Laursen	5816 Cardinal Way, Greensboro, NC 27409
Rita-Ann Distributors	Gordon L. Smith	9910 Breslin Drive, Chesterfield, VA 23832
Robins, A. H. Co.	Roy M. Moss	2701 Sandy Porter Road, Charlotte, NC 28210
Robins, A. H. Co.	James M. Paris	P.O. Box 622, Aberdeen, NC 28315
Roche Labs	Richard Brown	111 Long Shadow Place, Cary, NC 27511
Roche Labs	Ken Luchansky	4121 Oak Park Rd., Raleigh, NC 27612
Rugby Labs	Kathy Bertolo	6601 N.W. 12th Ave., Ft. Lauderdale, FL 33309
Rugby Labs	Jim Keith	Rugby Labd, 6601 N.W. 12th Ave., Ft. Lauderdale, FL 33309
Rugby Labs	Ellen Kempin	Rugby Labd, 6601 N.W. 12th Ave., Ft. Lauderdale, FL 33309
Rugby Labs	Hal Treen	3741 Herchel Ln., Winston Salem, NC 27106
Rugby Labs	Ivan L. (Ike) Willard	P.O. Box 702, Washington, NC 27889
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Sandoz, Inc., Pharmaceutical Division	Ray Taylor	6812 Greystone Drive, Raleigh, NC 27609
Schering Corp.	James R. Willis	5210 Pine Way, Durham, NC 27712
Scott Drug Co.	Donald Ahern	P.O. Box 34649, Charlotte, NC 28134
Scott Drug Co.	Carl Geanes	P.O. Box 34649, Charlotte, NC 28234
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Searle & Co.	T.T. (Ted) Paquette	110 Spring Ridge Trace, Roswell, GA 30076
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	Howard J. Shartle	2440-D Selwyn Ave., Charlotte, NC 28209

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Charles R. Yandell ..... P.O. Box 69, Pineville, NC 28134

LOCAL NEWS

ROCKINGHAM COUNTY

Officers of the Rockingham County Pharmaceutical Association were installed Saturday night, November 17, by H. Shelton Brown, Jr., President of the North Carolina Pharmaceutical Association. Chosen to serve for 1985-86 are Charles Rice, Rice's Pharmacy, Madison as President; Arnold Britt, Carolina Apothecary, Reidsville as Vice President; and Ron Martin, Rite Aide Pharmacy, Eden, as Secretary-Treasurer.

Shelton Brown, NCPhA President, was one of three speakers at the First National Conference of Medical Surveilance of Utilization Review recently held in Denver, Colorado.

The Charlotte Woman's Pharmaceutical Auxiliary held the September meeting at the Y.W.C.A. with Mrs. Jesse Oxendine, president, presiding. The meeting was an occasion to renew friendships and exchange news of summer events.

Mrs. Gibbs Henley informed members that local dues were $6.00, regular state dues, $8.00, and senior citizens dues $5.00.

Mrs. L.E. Barnhardt announced that Lois Brooks was the Auxiliary's scholarship recipient for 1985-86, and that Cynthia Lyerly was the recipient of the Myrt Anselment Memorial Scholarship.

The following committees were announced:

WAYS AND MEANS
Mrs. Douglas Corwin, chairman
Mrs. Adrian Galloway
Mrs. Don Smith

YEAR BOOK
Mrs. Leslie H. Davis, chairman
Mrs. C.D. Cannon
Mrs. Jessie Oxendine

Mrs. Davis announced that the October meeting would be a demonstration of micro wave cooking, explaining how to plan and prepare a holiday meal ahead and freeze it. She had a tape recorder on which members recorded brief messages to send to Mrs. C.H. Smith, a former charter member, now living in North Dakota.

Mrs. Corwin asked all members to work to increase our membership.

DOWN EAST PHARMACEUTICAL SOCIETY

The Down East Pharmaceutical Society held its annual New and Retiring Pharmacist Banquet Thursday night, August 8. Eighty-two persons attended, honoring Walter P. Johnson (retiring) and Tony Hardy and Connie Cousins (new pharmacists). Two Continuing Pharmacy Education Programs were held; one was a panel discussion featuring Shelton Brown, President of the NCPhA, Steve Dedrick, President of the NCSHP, Dean Tom S. Miya, and Teemie West. The second program was on the Campbell University School of Pharmacy with Campbell Provost, Dr. Jerry M. Wallace. The Down East Pharmaceutical Society has provided 15 hours of CPE so far this year, with eight more hours planned. An additional eight hour program on CPR is scheduled for the last weekend in the year for those procrastinating pharmacists.

Submitted by Thomas R. Thutt

GUILFORD COUNTY

The regular monthly meeting of the Guilford County Society of Pharmacists was held on Sunday, September 8, 1985 at Moses H. Cone Memorial Hospital at 8:00 PM. The program, co-sponsored by the Greensboro Area AHEC, featured Richard Thompson, Pharm.D., who discussed the "Pharmacological Management of Pain", with emphasis on pain in the terminal patient. This very informative program was well received by the large turnout of area pharmacists present. Following a short business session, the meeting was adjourned.

The regular monthly meeting of the Guilford County Society of Pharmacists was held on Thursday, October 3, 1985 at Brooks Training Center in Greensboro. Coffee and danish were served from 7:45 a.m.-8:00 a.m., with the program following immediately thereafter. Speaker for the program, co-sponsored by the Greensboro Junior League's "Substance Abuse Community Awareness Program", was Dr. Robert L. Dupont, Jr., psychiatrist and nationally known expert on drug abuse education. Dr. Dupont stressed the vitally important role pharmacists can and do play in very often being the first to see and bring to the attention of the involved individuals cases of substance abuse. This being a joint meeting with non-Society attendees, no business session was held.

J. Frank Burton, P.Ph.
Secretary-Treasurer

CATAWBA COUNTY

The Catawba County Society of Pharmacists met on Sunday, July 21, 1985, with President Billy Price presiding. Kathleen D'Achille, of the Northwest AHEC, started the two part program with a discussion entitled "Third Party Trends in Controlling Prescription Benefit Costs: What Can Pharmacists Do?" followed by "Pharmacy Network: The Pharmacist's Alternative" presented by Allan F. Zaenger, director of professional affairs, Iowa Pharmaceutical Association. Eighty-one members were present. The next meeting is scheduled for October 20, 1985.

Sara Isenhour, Secretary

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Richmond, VA 23235

M. Keith Fearing, Jr. — *President Elect*
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Manteo, NC 27954

W. Keith Elmore — *2nd Vice President*
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Wilmington, NC 28403

William T. Sawyer — *3rd Vice President*
Department of Pharmacy Services
NC Memorial Hospital
Chapel Hill, NC 27514

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(Continued on page 36)

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Bill Mast — *Vice Chairman*
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Smithfield, NC 27577

Rowland Strickland
Box 40
Stantonsburg, NC 27883

(Continued on page 39)

We informed them we want their views and no punches pulled.

And that's what we expect from the men and women of our 1985 Pharmacy Consultant Panel.

Advice on what we're doing right and what we're doing wrong. And how to make things better.

Points of view based on their personal experience in pharmacy.

Wisdom that will help us help you serve the public better.

Problem solving starts with listening.

We hope these pharmacists will give us an earful.

Meet our 1985 Pharmacy Consultant Panel.

Standing Left to Right:

John Piecora, Jr., Pharm. D.
Clinical Pharmacist
University of Kentucky
Lexington, Kentucky

Reed Frisling, R.Ph.
Vice President, Hospital Sales
Bergen Brunswig Drug Co.
Orange, California

Carl Lyons, R.Ph.
Institutional Pharmacist
Tulsa, Oklahoma

Larry Braden, R.Ph.
Executive Vice President
Georgia Pharmaceutical Association
Atlanta, Georgia

Manly Rhudy, R.Ph.
Community Pharmacist
Topeka, Kansas

Seated Left to Right:

Charles Lippert, R.Ph.
Community Pharmacist
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CORRESPONDENCE COURSE QUIZ

Psoriasis

1. Which of the following is a true statement?
   a. Psoriasis affects Black persons more than Caucasians.
   b. Psoriasis occurs more commonly in persons living in southern states than those in the northern part of the country.
   c. Psoriasis may manifest itself as a single lesion or be widespread over the body.
   d. Psoriasis affects men to a far greater degree than women
2. Most psoriatic patients reportedly believe that hot weather:
   a. aggravates their condition.
   b. has no effect on their condition.
   c. improves their condition.
3. Keratolytic agents exert all of the following actions EXCEPT:
   a. dissolve cement material that holds epidermal cells together.
   b. dissolve the keratin that holds epidermal cells together.
   c. lower the pH in the area to which they are applied.
   d. hydrate epidermal cells.
4. Which of the following is a true statement regarding psoriasis?
   a. OTC products do NOT lessen the severity of symptoms of mild psoriasis.
   b. Hydrocortisone is available OTC because it is a fluorinated steroid.
   c. OTC products are just as effective in treating psoriasis as are the prescription drugs.
   d. Salicylic acid has been found to be a safe and effective antipsoriatic keratolytic.
5. The OTC antipsoriatic product that is commercially available as both a bath additive and a shampoo is:
   a. Packer's Pine Tar
   b. Pragmatar
   c. Tegrin
   d. Zetar
6. Which of the following is a characteristic that differentiates psoriasis from seborrhea?
   a. Can persist for life
   b. Lesions can be induced by stress
   c. Inflammation on the scalp and body
   d. Silver-colored scales with very sharp borders
7. The type of psoriasis that results from lesions that coalesce into large, usually symmetrical areas is called:
   a. *Psoriasis capitus*
   b. *Psoriasis vulgaris*
   c. *Psoriasis corporis*
   d. *Psoriasis symmetrens*
8. All of the following factors promote psoriatic attacks EXCEPT:
   a. antimalarial drugs
   b. emotional stress
   c. excessive sunlight
   d. high humidity
9. An FDA panel recommended that corticosteroids need additional study to show proof of effectiveness because effective treatment of psoriasis SHOULD involve:
   a. controlling excessive shedding of epidermal cells.
   b. dehydrating keratin tissue cells.
   c. increasing vasodilation in the epidermal layers of skin.
   d. temporary relief of itching to give the skin time to heal.
10. All of the following can be correctly recommended to a consumer requesting an emollient bath additive EXCEPT:
    a. Alpha Keri
    b. Aveeno Oilated
    c. Denorex
    d. Denorex
11. The phenomenon whereby the underlying skin bleeds when psoriatic scales are removed is called:
    a. Addison's reaction
    b. Auspit's sign
    c. Koebner's reaction
    d. Koplic spots
12. The most commonly used OTC products for treating psoriasis contain:
    a. allantoin
    b. coal tar
    c. hydrocortisone
    d. salicylic acid
13. Both live and dead cells accumulate on the skin's surface to form the scaly patches characteristic of psoriasis because the epithelial cell turnover rate is:
    a. faster than normal
    b. slower than normal

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14. Psoriatic skin is:
    a. less permeable to drug penetration than normal.
    b. more permeable to drug penetration than normal.
15. The phenomenon whereby lesions form at the site of dermal injury in psoriatic patients is called:
    a. Addison's reaction
    b. Auspit's sign
    c. Koebner's reaction
    d. Koplic spots

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